

FOR OFFICIAL USE ONLY

JPRS L/10582

11 June 1982

Japan Report

(FOUO 34/82)



FOREIGN BROADCAST INFORMATION SERVICE

FOR OFFICIAL USE ONLY

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

COPYRIGHT LAWS AND REGULATIONS GOVERNING OWNERSHIP OF MATERIALS REPRODUCED HEREIN REQUIRE THAT DISSEMINATION OF THIS PUBLICATION BE RESTRICTED FOR OFFICIAL USE ONLY.

FOR OFFICIAL USE ONLY

JPRS L/10582

11 June 1982

JAPAN REPORT

(FOUO 34/82)

CONTENTS

POLITICAL AND SOCIOLOGICAL

Prime Minister Suzuki's Relationship with LDP Hawks Examined (ASAHI SHIMBUN, 16 Apr 82)	1
Possibility of Fukuda's Bid for Power Discussed (YOMIURI SHIMBUN, 11 Apr 82)	5
Nakasone's Dilemma Described (Kenji Kitahara; THE DAILY YOMIURI, 8 May 82)	8
Nakasone Faction's Role Analyzed (Tetsuo Tamura; THE JAPAN ECONOMIC JOURNAL, 18 May 82)	9
Changed Nature of Labor Spring Offensive Analyzed (NIHON KEIZAI SHIMBUN, 16, 17, 18 Apr 82)	10
Handling of F-4 Phantom Issue Criticized (Shintaro Ishihara; BUNGEI SHUNJU, May 2)	17

SCIENCE AND TECHNOLOGY

Government, Private, Academic Biotechnology Efforts Reported (NIHON KOGYO SHIMBUN, 10 Feb 82)	32
DNA Experiment Guideline, H. Saito Interview	
Four Applications of Biotechnology	
Active Enterprises in Western Japan	
Mounting Interests, Expectations	

- a -

[III - ASIA - 111 FOUO]

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

POLITICAL AND SOCIOLOGICAL

PRIME MINISTER SUZUKI'S RELATIONSHIP WITH LDP HAWKS EXAMINED

Tokyo ASAHI SHIMBUN in Japanese 16 Apr 82 p 2

[Fifth in series of articles: "Prime Minister Suzuki's Hurdles"]

[Text] Speeches and activities relating to former Prime Minister Kakuei Tanaka, who is good at handling matters realistically, have recently tended to be hawkish.

A party was held on the evening of 17 March to celebrate former Prime Minister Nobusuke Kishi's becoming and LDP supreme counselor. Before approximately 80 people from the political arena and business world, former Prime Minister Tanaka proclaimed in a raised voice: "A constitution written under the occupation of another country is not a constitution. Although constitutional amendment has been considered taboo, our party upholds the establishment of an autonomous constitution in its platform, does it not?"

Sense of Security From a Stable Majority

On the same day, at a party commemorating a publication of a Tanaka faction Diet member, former Prime Minister Tanaka said: "It is good to study amendment of the constitution which was given us by the occupation force." Of the 60 Diet members who endorsed the Committee of 100 Requesting Revision of the Japan-U.S. Security Treaty that was founded in the middle of March, one-third are Tanaka faction members. In the case of the Japan Strategic Research Center organized by Mr Shin Kanemaru, former director of the Defense Agency and a leading member of the Tanaka faction, which has gathered together retired uniformed officers of the Self Defense Forces and military specialists, the important positions are all occupied by members of the Tanaka faction.

The reason behind this hawkish tendency which has encompassed the Tanaka faction is the sense of security that arose following escape from the evenly balanced situation between the ruling and opposition parties in the Diet and regaining a stable majority after a long hiatus.

Since then Justice Minister Okuno's remark about constitutional amendment last year has occurred, the membership of the Diet Members' Union for Realization of an Autonomous Constitution has increased to over 300, and the LDP's three highest officials, including Mr Nikaido, have become vice presidents.

FOR OFFICIAL USE ONLY

The number of participants in the Diet Members' Group to Pay Universal Respect to the Yasukuni Shrine is 321. Nine cabinet members, including Prime Minister Suzuki, paid visits to the Yasukuni Shrine last year. Moreover, virtually all cabinet members are going to pay respect to the Yasukuni Shrine on 15 August this year.

A party circular letter to restrain antinuclear and arms-reduction movement was issued. There is a movement to strengthen inspection of school textbooks. The Defense White Paper placed emphasis on patriotic education.

As the LDP has been gradually realizing its long-term desires, the Tanaka faction's attitude has also become clear. In regard to objectives, some people observe that: "For the Tanaka faction, awaiting the conclusion of the Lockheed trial, the Suzuki regime is absolutely necessary as a protective wall. In order for Suzuki to be reelected, the Tanaka faction is trying to fill the gap between the prime minister, who sometimes shows dovish tendencies, and hawkish groups. It is a farsighted and deeply laid tactic." Can protection of the Tanaka faction really contribute to maintenance of the Suzuki regime?

The United States Provokes the LDP Hawks

Whether or not the United States has observed a change in the condition of the LDP, U.S. maneuvering of the LDP has become active. Concerning the issue of increases in defense power, in particular, the United States seems to have concluded that "it is more efficient to fill in from an outer moat--the LDP--rather than attacking the Suzuki administration itself."

Since last month, pro-Japanese Americans have visited Japan one after another. Former presidential adviser Allen, Deputy Assistant Secretary of State Shoemith, former Secretary of Defense Brown, former Minister to Japan (currently ambassador to the United Nations) Sherman, and Congressman Solarz have had meeting with important members of the LDP. All of them conveyed the severity of U.S. congressional criticism of Japan over the trade friction issue. They impressed upon the Japanese that the "U.S. Government stands in front of these tough opinions which are directed toward Japan" (Motoo Shiina, director of the Association for Study of Asian Problems). While giving such an impression, they demanded that "Japan should therefore carry out the prime minister's public promise" and realize "defense of the sea lanes for 1,000 nautical miles."

This kind of behind-the-scenes maneuvering by the United States is reflected in the LDP's Security Research Committee Subcommittee on Maintenance of Defense Power. The U.S. maneuvers, an eye on the compilation of next fiscal year's budget draft, have stimulated subcommittee moves to eliminate the "within 1 percent of GNP" upper ceiling on defense expenditure. They are also intended "to open a road through the leadership of the LDP since the Suzuki administration cannot do it" (a former Defense Agency director).

Considering this kind of condition within the LDP, the prime minister's reputation is not necessarily favorable.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

At the palace banquet to welcome Italian President Petrini on 10 March, the prime minister and an elder LDP Diet member had a chat:

"A movement to revise the Japan-U.S. Security Treaty has come into the open."

Prime Minister: "If one thinks it possible to amend the constitution or revise the Japan-U.S. Security Treaty, he is disqualified as a politician."

"Then, it is better for you to speak out."

Prime Minister: "...."

Doing Everything to Maintain an Equilibrium for Relection

Certainly the prime minister is prudent about constitutional amendment and revision of the Japan-U.S. Security Treaty. In the Japan-U.S. summit meeting held last year, he made clear the items Japan should reserve in regard to increases in Japanese defense power. His instructions for a "porcupine-like defense system appropriate to a maritime nation" is a moderate opinion in the LDP.

Tokuma Utsunomiya, a former member of the LDP's dovish faction and currently a member of the House of Councilors, sympathizes with the prime minister, saying: "Mr Zenko is preferable in the midst of domination by the hawkish factions." The prime minister seems to be losing the support of the hawkish factions to the same extent as he is gaining sympathy from someone like Mr Utsunomiya.

Nevertheless, the prime minister pulls the hawkish groups back to his side by shifting in his attitude from time to time. While he is eager to attend the special general meeting of the United Nations for arms reduction he rejects endorsement of the antinuclear movement because it will generate an anti-American atmosphere. He once opposed a big increase in the defense budget, but in the end he approved it. In regard to the LDP's requests for official visits to the Yasukuni Shrine by cabinet members and establishment of a day to mourn the war dead, the prime minister rejected the former but accepted the latter by entrusting it to a third party for detailed study.

The prime minister's politics of "harmony" sometimes maintain a balance by following the strongest forces and the loudest voices. For example, he appointed members of the Tanaka faction, the largest faction, to various positions. He accepted reexamination of the green card system. He held back from addressing political ethics. He raised the producer price of rice in the last fiscal year. Whether or not these are due to his skillful maintenance of political power, at any rate he does not step outside the bounds of trends within the LDP, which are often marked by overeagerness. The leading member of the Suzuki faction says:

"Considering the path toward reelection, there are many instances when the prime minister cannot push through his opinions." He also admits that the prime minister's political technique is rather effective.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

Which way this prime minister's sense of balance for the purpose of reelection directed the course of Japan is a question that will be asked when we look back at our history in the future.

COPYRIGHT: Asahi Shimbun Tokyo Honsha 1982

9896

CSO: 4105/100

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

POLITICAL AND SOCIOLOGICAL

POSSIBILITY OF FUKUDA'S BID FOR POWER DISCUSSED

Tokyo YOMIURI SHIMBUN in Japanese 11 Apr 82 p 2

[Text] "The revenue deficit in the FY-81 budget is going to be big. Since a revenue deficit is a financial issue, in that sense it becomes a political issue." Thus predicted former Prime Minister Fukuda. As if to substantiate his prediction, the issue of the revenue deficit came out at the cabinet meeting and the LDP Executive Committee meeting of the 9th. The government has begun reexamining its economic management. Although Prime Minister Suzuki still maintains an aggressive stance and says that "the goal of reducing deficit government bonds to zero remains unchanged," he is undeniably caught in a pinch.

On the other hand, Mr Fukuda avoids talking about the political situation as much as possible and remains calm and quiet. What has happened to Mr Fukuda's other prediction of "a great disturbance in the world?" Contrary to former Prime Minister Tanaka, who is much talked about one way or another, Mr Fukuda continues to hold an uncanny silence.

"This year is going to be a year of much disturbance. Even though we do not move, heaven will move."

At the beginning of this year, Mr Fukuda uttered sensational remarks one after another. He may have spoken them because of his bitter feeling toward "the Suzuki-Tanaka axis," which dared to appoint Mr Nikaido secretary general in the cabinet reshuffle at the end of last year. A more likely reason is, however, that he was picturing to himself the thorny path toward November's LDP presidential election, which will include the first verdicts for politicians who are defendants in the All Nippon Airways case of the Lockheed trial scheduled in the spring, a verdict for former Prime Minister Tanaka which early this year was expected to be handed down this fall, a difficult reconstruction of national finances and economic management, and furthermore, external pressures surrounding trade and defense. It is not hard to imagine that Mr Fukuda was picturing himself the path at the beginning of this year.

The political schedule Mr Fukuda fixed is certainly falling to pieces at least partially because of countermeasures (?) by the Tanaka side, including a delay in the verdict on Tanaka. However, the revenue deficit has become a political issue entangled with speculation on the political situation. The Suzuki administration is being forced to correct its economic management

FOR OFFICIAL USE ONLY

policies. At this time, is Mr Fukuda ready to change his previous attitude of "supporting Suzuki" and become "active?" Attention in the political arena is now focused on just this point.

Recently a Diet member of a certain large faction visited Mr Fukuda. Mr Fukuda pointed out to him again the importance of the revenue deficit issue and told him the following: "Mr Suzuki's reelection must be considered carefully. However, the question is who is to succeed." Restraining the Diet member who replied, "Mr Fukuda, you should become prime minister," Mr Fukuda supposedly said that "the age of the new leaders will inevitably come, but before them how about Mr Komoto (director of the Economic Planning Agency)?" According to the analysis of the same experienced Diet member, Mr Fukuda is in a complex state of mind: (1) Although he has doubts about Suzuki's reelection, he cannot find a good candidate that he can support as Suzuki's successor. (2) He cannot completely deny his own desire for a comeback as prime minister. (3) Although he feels a closeness to Mr Komoto, the situation has not yet reached the stage for a "Fukuda-Komoto tie."

Although he is very critical of the concentration of power in the Tanaka faction that is the other support of the Suzuki administration and distrusts Suzuki's politics, Mr Fukuda still cannot decide to take action to turn the political situation. His mind is still unsettled. As if seeing through his mind, the Suzuki and Tanaka factions make cynical remarks about Fukuda. "Because Fukuda himself wants to relieve the prime minister, he neither seriously supports Komoto nor takes rough actions to antagonize us" (a leading member of the Suzuki faction).

Putting aside these speculations from the outfield bleachers, Mr Fukuda himself enjoys his present position considerably by making pinpricks at Suzuki and Tanaka. "Although nothing will happen by summer, there will be many crises by November's presidential election. I will store my energy for a while." "The basis of people's trust in politics is clean politics."

Then, when and how will Mr Fukuda turn to the offensive? In particular, how is he going to respond to the presidential election? This is going to be a focus of attention.

"If the prime minister's leadership is firm, there will be no primary election. How Mr Nakasone (director of the Administrative Management Agency) acts will determine the future political situation."

Although Mr Fukuda has been negative about the primary election because he has thought it would have too many adverse effects and until last year declared that there would be no primary election, since he is one of the two powerful men along with former Prime Minister Tanaka, indications of reorganization in the political arena such as "a Fukuda-Komoto tie" or "Fukuda-Komoto plus the middle-of-the-road parties" glimmer fitfully in the distant background.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

In any case, he is certainly expecting "a great disturbance" to occur between 8 June, when verdicts will be handed down to the defendants in All Nippon Airways case of the Lockheed trial, and the middle of next year. Former Prime Minister Tanaka, Fukuda's rival, is also busy every day tightening up his own camp as if to say "Be aware of Fukuda."

COPYRIGHT: Yomiuri Shimbunsha 1982

9896

CS0: 4105/98

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

POLITICAL AND SOCIOLOGICAL

NAKASONE'S DILEMMA DESCRIBED

Tokyo THE DAILY YOMIURI in English 8 May 82 p 3

["Political Beat" column by Kenji Kitahara]

[Text]

"I am trying not to be preoccupied with ambition and not to be sensitive. I will never take any initiative."

These are the words of Yasuhiro Nakasone, director-general of the Administrative Management Agency, who is a figure in the political world at a time when politics are being stirred up again after a period of tranquility.

Nakasone spent the holidays of "Golden Week" at a farm in the Tama area of western Tokyo and at his villa in Karuizawa, Nagano-ken.

His vacation was apparently aimed at stockpiling energy for the preparation of sectional reports to be submitted in or after mid-May and the basic report on administrative reform to be compiled in July.

Whether Prime Minister Suzuki will be reelected in the Liberal-Democratic Party (LDP) presidential election scheduled for December depends upon how Nakasone and Toshio Komoto, director-general of the Economic Planning Agency, will act.

Komoto, who is close to former prime minister Takeo Fukuda and is deepening relations with Ichiro Nakagawa, director-general of the Science and Technology Agency, and Ikko Kasuga, adviser to the Democratic-Socialist Party, is conducting an open race for the LDP presidency.

However, observers feel Nakasone's plans seem obscure.

This may be due to the fact that Nakasone is now trapped in the task of administrative reform as former premier Kakuei Tanaka points out or due to a more complicated strategy as one of the favorites in the race.

According to those who are close to Nakasone, he is actually planning two types

of strategy.

One of them is to thoroughly carry out the task of administrative reform in line with Prime Minister Suzuki's directives.

However, there is a dispute within the government as to which should come first, business stimulation or administrative reform. Now a cry for business recovery advocated by Komoto as Nakasone's rival is becoming louder.

In this situation Nakasone aims to strengthen his position by urging the premier to continue pressing for administrative reform.

"Nothing ventured, nothing gained." Nakasone apparently would like to learn something from this proverb.

The other strategy is more positive. Nakasone may be able to cast the deciding vote if Suzuki, supported by his faction and that of Tanaka, and Komoto, backed by Fukuda and Nakagawa, are stymied because of the balance of power.

If this occurs, Nakasone will announce that he will not run in the preliminary election and that he will support Suzuki in order to carry out administrative reform in a bid to secure victory for Suzuki.

If this comes to pass, it is speculated that the Suzuki and Tanaka factions would become indebted to Nakasone and agree to support him as the LDP president to follow Suzuki.

His silence encourages this kind of speculation.

But there is no guarantee that the political situation will develop in this way considering the constant shifts of alliances. But there seems to be no other choice but this, and it is reported that this was what Nakasone told his associates.

COPYRIGHT: The Daily Yomiuri 1982

CSO: 4120/271

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

POLITICAL AND SOCIOLOGICAL

NAKASONE FACTION'S ROLE ANALYZED

Tokyo THE JAPAN ECONOMIC JOURNAL in English 18 May 82 p 10

["Political Scene" column by Tetsuo Tamura: "Nakasone Faction May Have Deciding Power"]

[Text]

There is a growing belief among political circles that Yasuhiro Nakasone, director general of the Administrative Management Agency, and his faction will have the deciding vote on the outcome of the ruling Liberal Democratic Party's presidential election slated for November. The reason is simple: the Nakasone faction, a "quasi-mainstream faction" aligned with mainstream Tanaka and Suzuki factions, could seriously affect the Suzuki Cabinet's fate if it moves even an inch toward "anti-mainstream" factions. That is, if the Nakasone faction joins the camp of "anti-mainstream" Fukuda, Miki and Nakagawa factions, the LDP's present factionally-balanced framework could be disintegrated very easily, thereby staggering the very foundation of the Suzuki Cabinet and suddenly throwing the LDP into a very unstable situation.

For example, if Nakasone decided to clearly go against Prime Minister Suzuki and run in the coming presidential election, it would be almost certain that the election would be held. At present, Prime Minister Suzuki, Director General Toshio Komoto of the Economic Planning Agency, and Director General Ichiro Nakagawa of the Science and Technology Agency have expressed their intention to run in the election. If Nakasone joins those three, there will be four candidates, and the presidential election must be held according to party rules. That is, if there are only three running, there will be no need to hold a primary election and the runoff election by LDP's Dietment will decide who should become the next party president. In that case, party leaders will probably hold talks to avoid confusion and conflict, and Suzuki is very likely to be reelected to the presidency.

On the other hand, even if Nakasone decided to be "anti-Suzuki," it would not enhance his chance of becoming the next

party president (and the premier) right away. But if he did, Japan's politics would become chaotic. There also would be a probability that Nakasone would incur the wrath of the Tanaka and Suzuki factions and lose his chance to be the party president. Furthermore, even if Fukuda, Miki, Nakasone and Nakagawa joined hands under the banner of "anti-Suzuki," there would be a chance that those four factions could not reach a consensus on a successor to Suzuki, and after much confusion, Suzuki would be reelected to the presidency.

Faced with this prospect, Nakasone and his faction are keeping their stance as a "quasi-mainstream" faction in an attempt to win power with support from the Tanaka and Suzuki factions. There are a number of issues which could possibly threaten the foundation of the Suzuki Administration, such as the expected shortfall of ¥3 trillion tax revenues for fiscal 1981 and the court ruling June 8 on defendant (and incumbent Dietman) Takayuki Sato in the Lockheed payoff case.

Under such circumstances, one cannot deny the possibility that the Nakasone faction will change its mind and suddenly join the "anti-mainstream" camp when the occasion arises. At present, a prevailing view within the LDP does not warrant Nakasone's chances to succeed Suzuki, but there is no denying that Nakasone is the most likely candidate to become the next premier. For this reason, everyone is keeping a constant watch on every move of the Nakasone faction. If viewed from a different angle, how Nakasone sees things and what action he takes by this November will determine the final outcome of the LDP's presidential election and the future course of Japanese politics.

COPYRIGHT: 1982 The Nihon Keizai Shimbunsha, Inc.

CSO: 4120/270

9

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

POLITICAL AND SOCIOLOGICAL

CHANGED NATURE OF LABOR SPRING OFFENSIVE ANALYZED

Tokyo NIHON KEIZAI SHIMBUN in Japanese 16, 17, 18 Apr 82

[16 Apr 82 p 2]

[Text] "It will conclude with a bluff fight." (Top-level executive of the General Council of Trade Unions of Japan) The 1982 spring offensive was the first "spring offensive without a transportation strike" in the history of spring offensives because a strike of the major private railway companies and the Japanese National Railways was averted. Amid the administrative reform storm and the criticism of "the good old government will foot the bill" attitude, there is no way of concealing the ebbing of the National Council of Government and Public Workers Union (Kankoro), which until now has taken upon itself the role of axis of the labor movement. The labor tide has started to shift from Kankoro to private union leadership centered in the labor front Unification Preparatory Association (Toitsu Jumbi-kai).

National Council of Government and Public Workers Union Disheartened

Kaoru Ota, chairman of the General Council of Trade Unions of Japan (Sohyo), who is both the originator and father of the spring offensive, preached the "end of the spring offensive" in 1975 with the comment: "A settlement was reached on the price offered by the employers via their response to the iron and steel workers." It is forecast that this year's spring offensive wage increase will somehow reach the 7 percent level and "actual disposable income will increase about 2 percent." (Chairman Miyata of the Metal Workers Federation) And there is no feeling of defeat in the labor unions. Rather, it is held that private industrial unions, such as the International Metal Workers Federation-Japan Council's common front of steel, electronics and automobile workers and the General Federation of Private Railway and Bus Workers Unions of Japan (Shitetsu Soren) have "fought well."

Kankoro, through the National Railway Workers Unions (Kokuro) and the National Railway Locomotive Engineers Union (Doro), and Sohyo, in which Kankoro occupies the main current, have been battered. The fact of "no JNR strike" for 2 consecutive years has clearly given the impression of a decline in Kankoro's power. Given the stormy sea of the "administrative reform spring offensive," Kokuro officials have been locked in a prone position since the beginning of the year, saying: "If possible, we want to avoid a strike." The criticism that the workplace discipline is lax has also helped, and it may be accurate to say that Kokuro is "no longer able to wage a strike."

FOR OFFICIAL USE ONLY

Rise of Labor Front Unification Preparatory Association

On the one hand, Shitetsu Soren, the main power in Sohyo affiliated private industrial unions, made application to participate in Toitsu Jumbi-kai before the spring offensive, and intensified its "separation from the government unions." An illustration of the coordination of strike dates strategy until now is that Sohyo promoted coordination with Kokuro. Nevertheless, Shitetsu Soren independently set a strike for the 13th and 14th, and after that the Council of Public Corporation Workers Union (Korokyo), such as Kokuro, went along with them, deciding to strike for half a day on the 13th. Backbiting comments, such as "we carried a heavy burden" or "an ugly woman's persistent attachment," were heard from within Shitetsu Soren. Chairman Katayama of the Federation of Independent Unions (Churitsu Roren) (chairman of the Federation of Electrical Workers Unions) has predicted that "leadership by the private unions will be strengthened more and more."

Toitsu Jumbi-kai is at the stage of recognizing participation of the second echelon of Sohyo, such as Shitetsu Soren and the National Trade Union of Metal and Engineering Workers, on the 17th. If so, influential private industrial unions will be assembled in Toitsu Jumbi-kai and about 4.3 million members will collectively have the strength to match the membership of Sohyo (4.57 million members). It is inevitable that in the fall Toitsu Jumbi-kai will expand and reorganize into a "council," and will assume leadership of the spring offensive next year.

In some ways, this spring offensive was also the spring offensive which questioned how the "Toitsu Jumbi-kai spring offensive should be." At the beginning of April, Noboru Goto, president of Tokyo Electric Express Railway, Ltd, observed that "this year will see a serious spring offensive in that Toitsu Jumbi-kai has been allowed to take root," and that he would send back a generous answer to Shitetsu Soren as a congratulatory gift for its joining Toitsu Jumbi-kai. Management's "parental affection" in fostering the sprouting Toitsu Jumbi-kai could be seen at every turn.

Birth Pains in Next Year's Spring Offensive

As for the rise of Toitsu Jumbi-kai, the view concerning the National Spring Offensive United Front Congress, comprised of Sohyo and Churitsu Roren and others, that "next year Dhuritsu Roren will pull away from the congress and the congress will not be organized" is spreading. (All-Japan Telecommunications Workers Union official) They have been placed in a life or death crisis.

Chairman Katayama himself, one of the rounders of Toitsu Jumbi-kai, spoke ambiguously with these comments: "If Toitsu Jumbi-kai is substantially strengthened, naturally the private united front will become its axis. However, if the view of labor front unity does not grow a little more, the spring offensive united front may last only one more year." It is certain that the "decline of the spring offensive united front" has drawn near.

The end of the spring offensive. Granting that the spring offensive format does not disappear, the spring offensive formula to date, whereby the wage increase market is pushed up via the effect of riding together under the

FOR OFFICIAL USE ONLY

backdrop of a strike, has, in substance, become a mere shell of itself. And the Sohyo style labor linkage with Kankoro as its core is standing at a turning point.

In such a situation, will the Toitsu Jumbi-kai and private unions' spring offensive give birth to a new spring offensive formula? The private railways' labor and management have already begun to grope for a labor-management cooperative "united response formula" similar to that of the steel workers. Even within Sohyo, the assessment has been voiced that "because it will be the end of a one-shot response comes to the forefront; we will do our utmost until a reply is given; it is worth a three-shot response." (Sohyo official)

Therefore, this also has the defect of making it easy to fall into a "spring offensive controlled" by management. While Sohyo and Kankoro are searching for the path to a painful rebirth, in the meantime, the private unions for which Toitsu Jumbi-kai is a mother's womb seem to be experiencing the birth pains of a new spring offensive pattern.

[17 Apr 82 p 2]

[Text] "It is presumptuous for us to grade this year's wage increase offensive, but won't everyone give us a prize for our fighting spirit?" On the 8th, when a simultaneous response was given to the metal workers federation (International Metal Workers Federation-Japan Council, six metal and electrical workers unions), Ichiro Shioji, chairman of the Federation of Automobile Workers Unions, boastfully made the above comments. The rate of consumer price increase in FY 81 was 4 percent, a reduction by half over the previous year (7.8 percent). Since it was expected that this year a wage market "in conformity with prices" would drop sharply compared to last year's 7.7 percent average, this may be called an expression of confidence from labor, whose outlook was that a 7-percent increase could be maintained throughout the Japan Council.

However, the view is strongly held that in this year's spring offensive, the employers judged there would be no transportation strike by private and government railway workers from the very beginning, and joining forces, they worked out a higher than anticipated wage increase. The response to the steelworkers, which is the standard for the response to the private railway workers, was 13,100 yen, a 6.36-percent increase, less than last year by only 400 yen or 0.63 percent. The private railway workers answer topped the steelworkers offer by 1,200 yen during the last 2 years. The private railway management promptly declared early in April that "a difference of 1,200 yen will be maintained this year as well." It can be said that the private railway response was set at more than 14,300 yen.

High Offer Was Effective

At this stage, the observation that "There will hardly be a transportation strike" began to be made by some within the Japan Council. After all, the second reply to the private railway workers which came on the 12th was settled at 14,500 yen, which added 200 yen to the bottom line, plus cost of living allowance (1,000 yen beginning in October).

FOR OFFICIAL USE ONLY

While the negotiations were continuing to the utmost before the second reply, there were even union officials in the major private railway workers unions who were saying, "If we get 14,500 yen, there will be no strike even without the living allowance given last year." It can be said that the employers' deep attachment to a "no strike" was the reason for the high response.

One person connected with the National Railway Workers Union (Kokuro) made the following analysis: "It was handled perfectly by management. Kokuro and Doro could not have a strike independently. If there is no private railway workers strike, a strike by Kokuro and Doro would automatically disappear. Next year and thereafter, private railway management will make a high offer and try to continue the 'no strike'; aren't they aiming at a single shot response in the future?"

Kokuro and Doro Also Pull Back From Strike

Amid severe criticism of JNR, such as blackmarketing and working while drunk, Kokuro and Doro have conspicuously lost ground. Nevertheless, this year from their position of honor as the "core unions" in the spring offensive up until now, Kokuro and Doro set the strike dates--a half day on the 13th beginning with the first train departure until noon for the National Railways commuter trains in the capital and Osaka areas, in unison with the major private railway workers; on the 15th for the principal arterial railroads; and on the 16th, simultaneously throughout the entire country. But from the very beginning, they had no intention of striking. There are indications that even regarding the simultaneous strike with the private railway unions on the 13th, Kokuro approached the private railway unions about averting a strike.

What will happen to the private railway unions strike next year and thereafter, given the phenomenon of Kokuro and Doro which joined forces with them in the transportation strike calling for a "pull back from striking?" Likewise, management does not have a clear and accurate outlook, saying, "If possible, we will settle with a one-shot response, and we would like to stop making our passengers nervous, but it will take 4 or 5 more years." (Managing Director Sudo of the Japan Privately Managed Railway Association)

Shitetsu Soren (whose chairman is Takeshi Kurokawa and which has 203,000 members) holds a pessimistic view on a no-strike settlement. "The problem is the extent of the reply; it can't be said that the pattern next year will be the same (as this year, which had an early settlement). It will still take time to arrive at a one-shot response. Likewise, there are times when the strike itself is the objective (for maintaining the organization)." (Chief Secretary Tamura)

One key forecasting the direction of the private railway strike is the course of Toitsu Jumbi-kai (Labor Front Unification Preparatory Association), which took leave of the Kankoro type labor movement which makes the strike omnipotent, and is advancing with the leadership of the private labor unions. Even though it was shelved at the managers' conference of Toitsu Jumbi-kai held on the 16th, Shitetsu Soren's application with Toitsu Jumbi-kai is an already established route. There is also the view that "management's intention in hoping that Shitetsu Soren will affiliate with Toitsu Jumbi-kai (whose aim is the no-strike line) is working behind this year's high offer to the private railways."

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

Break-up Deepens in Korokyo

Moreover, the breakup within the Council of Public Corporations Workers Unions (Korokyo), such as Kokuro and Japan Telecommunications Workers Union (Zendent-su), is showing signs of deepening further. Even concerning this spring's basic wage rate increase, it was strongly voiced within Zendent-su where business is good that "Let's increase the difference with JNR where there is a deficit," but in the end, it seemed to settle at about the same rate as in the past. Apart from the reality, dissatisfaction has accumulated with Korokyo which took pride in being a monolith, and there is the potential for the crisis of dissolution.

"The private railway unions are going to Toitsu Jumbi-kai, and Kankoro is being cut up. Not to mention the private railway objections, the decision for no strike will unmistakably take root beginning next year." Such comments from a Kokuro official appear to suggest a spring offensive next year and thereafter.

[18 Apr 82 p 2]

[Text] The backers are outside the mosquito net. The Japan Federation of Employers Association (Nikkeiren), the General Council of Trade Unions of Japan (Sohyo) and the Ministry of Labor are the backers needed for the spring offensive. The wage increase in this year's spring offensive was decided without concern for these backers, who were all put outside the mosquito net. For example....

"We are not saying, proceed with a wage increase in accordance with the productivity standard principle, but instead we are saying we want to temper the productivity standard principle with the ability to pay." (Chairman Otsuki of Nikkeiren at a regular interview on the 14th)

"This year's spring offensive is full of changes in comparison with the past. Official sources are talking about everything from the content of the reply to the time period. An illegal act!" (Chairman Makieda of Sohyo at a press conference after a meeting with Minister Hatsumura of the Ministry of Labor on the 12th)

"Each enterprise decided independently on a wage increase with both labor and management. No problems appeared. Our turn never came." (Official of the Ministry of Labor after agreement in the wage increase negotiations with the private railways)

Nikkeiren Ignored

It was Nikkeiren which waved the flag of wage restraint, insisting on "a wage increase within the limits of a productivity increase rate." But when the results were known, the major private companies went with a 7-percent wage increase. Both labor and management effectively ignored the Nikkeiren guidelines, and decided on "their own" wage with labor and management cooperating. It can be said that Nikkeren's wage increase theory ended in "empty talk."

FOR OFFICIAL USE ONLY

Condition of Major Private Industrial Union Wage Increases

	<u>Amount and Percentage of Offer</u>	<u>Base Wage (yen)</u>	<u>Last Year's Actual Results (yen and percentage)</u>	<u>Average Age</u>	<u>Years of Em- ploy- ment</u>
Electronics (14 companies)	13,072 + α (7.5+ α)	175,560	13,344 (8.1)	32.7	12.2
Automobiles (11 companies)	13,223 (7.4)	179,424	13,611 (8.0)	34.4	11.4
Iron and steel (5 companies)	13,100 (6.36)	206,000	13,500 (7.0)	35.0	15.0
Shipbuilding (7 companies)	13,100 (6.6)	197,366	13,500 (7.1)	37.5	16.0
Power utilities (9 companies)	13,800 (6.3)	219,062	14,300 (6.9)	35.5	16.6
Private railways (8 companies)	14,500 (7.06)	205,467	14,700 (7.6)	39.4	19.0
(N.B.) Only steel differs from the other industries in the standard laborer's formula.					

This is also the reason for the weak-hearted words from Chairman Otsuki, speaking on behalf of Nikkeiren: "We want to temper the productivity standard principle."

The situation is the same with Sohyo. In addition to the "pressure" from administrative reform, disorder in the National Railways labor union which symbolizes Kankoro is the subject of all-out public criticism. Even though Sohyo wanted to get a word in on the spring offensive, the circumstances did not allow it. Shitetsu Soren, which leans most toward Kankoro among the private labor unions, explicitly broke away from Kankoro in this year's spring offensive and joined the private unions. Sohyo, that is, Kankoro, stood completely alone. The spring offensive was an affair symbolizing change.

In this situation, a no-strike spring offensive materialized for the first time and, as it were, generally settled down with a wage increase standard. The Ministry of Labor also has no turn in an undisputed spring offensive. A spring offensive close to the Ministry of Labor's ideal materialized but ironically resulted in dimming the significance of the existence of the Ministry of Labor.

Disposable Income Increase Expected

In this year's spring offensive, labor and management of the major private companies realized a 7-percent wage increase without being bothered by the backers. Since many factors, such as business trends, the enterprise's earnings, labor-management relations, trends in other companies in the same industry, and labor supply and demand were counted in the 7 percent. The wisdom of both labor and management was pooled.

What influence will this wage increase have on business (especially the individual consumer) and prices?

FOR OFFICIAL USE ONLY

First of all, let's look at the influence on individual consumption. It is said that one reason for the stagnation in consumption is the decrease in real wages. Especially with the natural tax increase, real disposable income has dropped for 2 consecutive years. There is no hope for a recovery in consumption. However, the Ministry of Labor's analysis is that with the 7 percent increase, "about a 1 percent increase in real disposable income is firm."

The condition for a recovery in individual consumption has been tentatively arranged, and the prominent view is that "the psychological effect of gaining a 7-percent increase will stimulate individual consumption." (Ministry of Labor) Nevertheless, considering future business trends, there are also important factors such as the decrease in overtime work and a constriction of the bonus. There is little possibility of total cash wages expanding more than last year.

And even considering the influence on prices, the general view is that "I don't think it will be a factor in price increases." (Chairman Otsuki) However, this does not mean it is not a matter for concern. "When the future international competitive ability is considered, I feel it was a little high." (Chairman Otsuki)

Further Acceleration of Private Leadership

Certainly, the United Automobile Workers of the United States and West Germany's Metal Workers Union accepted an actual decrease in wages in this year's wage revision. Concerning wage increase, a phenomenon of passing each other occurred between Japan and Europe and the United States. This is a matter of concern for management looking at the mid- and long-term views.

However, the majority in the financial world voice the opinion that the movement of "employment over wages" in Europe and the United States is "two or three rounds behind Japan." It is not thought that a 7-percent wage increase will have an effect on international competitive ability.

Concerning this year's spring offensive, certain persons in the financial world stated: "Real wages increased and public sentiment will stabilize." It can also be seen that in this year's spring offensive, Japan's labor and management made the "wisest" decision both macroeconomically and politically.

In this year's spring offensive, this pattern became quite clear--the influential power of the old backers dimmed and the negotiations of private labor and management will decide the spring offensive market. Such movement will accelerate even more in the spring offensives next year and thereafter.

COPYRIGHT: Nihon Keizai Shimbunsha 1982

9400

CSO: 4105/93

FOR OFFICIAL USE ONLY

POLITICAL AND SOCIOLOGICAL

HANDLING OF F-4 PHANTOM ISSUE CRITICIZED

Tokyo BUNGEI SHUNJU in Japanese May 2 pp 136-146

[Article by writer and Diet member Shintaro Ishihara: "F-4 Phantom Deception"]

[Text] Philistine Politics Rejected

Unsound "Diet Policy"

Broadly speaking, as long as there are internal politics and external politics, the political aims of any government are varied. In addition, those aims are organically intertwined, and the political means and methods for their attainment are implemented while interacting with each other in a complex manner.

In this sense, except for very unusual circumstances under given conditions in a given era, a singular and absolute political aim or theme is difficult to conceive. The priorities within a variety of political aims are not determined easily, and if they are determined they are inevitably altered due to changes in eras or other political coefficients.

It is very dangerous for politicians in positions of leadership--i.e., a limited group of people who have a powerful influence not only on politics but also on society in general from the standpoint of social engineering, including the spirit and psychology of the national masses--to easily determine the priorities of aims within the politics at their disposal. The upshot is that the range of political choices is narrowed down and rendered inflexible, while the nation and the people are likely to be compelled to bear unnecessary sacrifices and losses.

Today, unnoticed by the people, politicians are always acutely sensitive to the handling of legislative and political affairs by the Diet and the government. There is a firm order of top priorities concerning political goals. It is called "Diet policy" and all political issues must yield to Diet policy. Nevertheless, "Diet policy" is merely a means of Diet operation and should be subordinated to concrete political issues. But in the present politics, the cart is being placed before the horse.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

Roughly speaking, a judgment of political values is made only by induction in relation to politically indispensable matters--mainly the budget and elections.

However, a budget is only a budget, be it the main budget or a supplemental budget. It is merely a political derivative, while an election is merely a component of politics. Of course, it depends on the nature of things, but a political theme which can influence the fate of a nation can also become a factor in basically influencing a national budget in proportion to its importance. It can also provide the political impetus for a new election, depending on the political situation. Nonetheless, in Japan's politics today, the cart is placed before the horse, and regardless of the importance of a political issue, discussions are held only in the framework of such a perversion.

This has resulted in a serious confrontation in Diet deliberations, and the more likely an issue is to evoke heated debate, the more possible it is for a budget to be denied speedy approval, depending on the Diet policy of the opposition. Therefore, in order to provide impetus for a new election, the ruling party would attempt to water down the key political issues by resorting to superficial debate and deliberation, while the opposition would demand concessions from the government party, irrationally distorting the substance of the issues, in order to prevent the formation and implementation of the budget. Meanwhile, whenever there is the possibility of an issue being linked to an election, it is customary for the substance of the issue to be diffused amid stormy debate from the two sides.

The individual political issues which become the subject of Diet deliberation constitute the heart of politics, while the derivative issues and procedures such as budgets and elections are mere auxiliary affairs. However, the sterility of modern Japanese politics stems from the reversal of these two elements. It could perhaps be offered as solid proof of the qualitative decay of an advanced culture which Sei Ito predicted long ago in his thesis on culture during the early stage of Japan's consumer society.

The formation and implementation of a budget are indispensable in government administration. However, as long as the separation between the executive and legislative branches of government is a key prerequisite for democracy, it cannot be considered sound from the standpoint of the functioning of democracy for the concepts of the executive branch to coincide completely with those of the legislative branch in which a political party plays a role, although that party happens to be the party of a long-reigning government. The formation and implementation of a budget are most important to a government official, next to his life. Or rather, it is the *raison d'etre* of a government official. Despite this, and regardless of the existence of a large number of former officials as Diet members of the ruling party, it is definitely unsound for them to completely dominate the party's concept of values and purpose. The absolute control of the Japanese nation by its bureaucrats is clearly evident, judging from the concepts held by the ruling party.

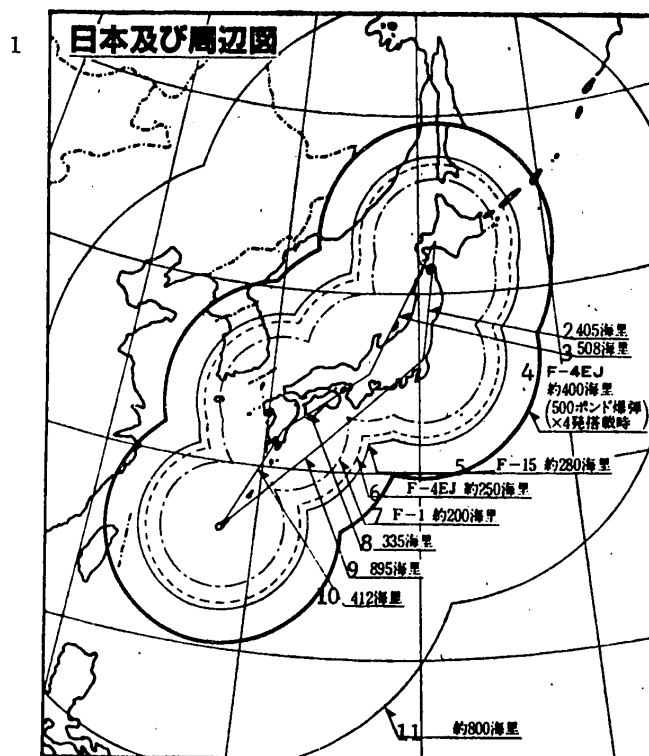
FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

As long as politics reflect their concept of values--or rather, their sense of highest priority regarding their methods and practices as government officials--there can be no hope for dynamic politics. There would be no reason to expect foresight on the part of politicians to transcend the present or to have a historical awareness. Their concepts should not move ahead of the cycle of budget formation, nor could they willingly accept the correction and revision of their past errors due to their excessive self-pride.

To conduct all political affairs on the basis of induction from the formation and implementation of the budget--that is, the methods of the present Liberal Democratic Party (LDP) and its government in placing top priority on "Diet policy"--may be easily explained away as self-defense, even when a basic error has been committed, but to that extent they are only being irresponsible and philistinely customary.

I would venture to say that the charge often made by the ruling party, to the effect that the perennial immaturity unique to the opposition and its irresponsible brazenness in refusing to acknowledge that fact has produced the present state of Diet policy, is actually the opposite of reality. That state was actually derived from the disposition of the ruling LDP itself.



FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

Key:

1. Map of Japan and Its Environs
2. 405 nautical miles
3. 508 nautical miles
4. F-4EJ
about 400 nautical miles
(500-lb bombs x 4 aboard)
5. F-15 about 280 nautical miles
6. F-4EJ about 250 nautical miles
7. F-1 about 200 nautical miles
8. 335 nautical miles
9. 895 nautical miles
10. 412 nautical miles
11. about 800 nautical miles

Government Views Fail To Present Perspective

My preface has been somewhat lengthy. The majority of the people who presented the LDP with an unexpectedly decisive victory, albeit tacitly, in the previous general election of 1980, had hoped that the party in power would bring about a drastic reform in response to this turning point in history, and to make possible a new development on the basis of the reform. I have been frustrated and irritated by the almost total failure of the government and its party to respond to this challenge following the election. The reason is, ever since I became a politician, I have seen with my own eyes the unchanging philistine attitude of the LDP in its political management.

The constitutional debate sparked by Justice Minister Okuno, which became an issue in the postelection Suzuki cabinet; the problem of interpreting the three antinuclear principles relative to the pros and cons of port calls and passage through territorial waters under present international conditions; the confusion arising from the interpretation of the U.S.-Japan "alliance" in the joint statement which was signed by the prime minister himself; the administrative reform which was tentatively effective in bringing about a zero ceiling in this year's fiscal budget, but which has subsequently shown signs of tapering off; especially the major overhaul of the totally dilapidated National Railway System, which not only is the greatest minus factor in Japan's government and finance, but could also adversely affect the spiritual health and judgment of the masses; and the futile controversy in the budget committee this year over the remodeling of the F-4 jet, which was an appropriate medium for the dispersal of previous deceptive notions concerning self-defense--despite the fact that these are all more or less equally crucial issues surrounding the nation's fate, and even today when their political coefficients have clearly changed in comparison to the points in time when their seeds were planted or were first brought to attention, the government has not rendered any statement or manifested any attitude which would contribute favorably to any solution or progress of the issues in terms of the interest of the nation and the people. The views expressed by the government have been absolutely stupid repetitions of past practices.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

They are apparently unable to see the steep and treacherous incline of the stages in history which they themselves have climbed. They barely see the individual steps, front and back--i.e., the budget cycles--and do not bother to stop and look back at the steep steps they have climbed or are about to climb.

With regard to the normalization of Japan-South Korea relations, the U.S.-Japan security pact, etc., the LDP formerly resorted to free-for-all fighting, adoption through steamroller tactics, and unilateral adoption in the main Diet sessions. Moreover, only a minority of the people today criticize as wrong those choices which could only have been made by such methods. The opposition also submitted numerous proposals of non-confidence, criticized the slow pace of the administration and conducted nonstop deliberations for as many as 4 days on end, late into the night. To that extent, at least, the people focused their attention on politics. Today, however, neither the ruling party nor the opposition has such volition or energy. When did such rigidity and secrecy begin to set in into real politics, alienating the people? It probably began under the rule of Prime Minister Sato, who boasted of his long-reigning government. Moreover, the chronic and endless decline of the LDP proceeded parallel with it.

It seems that, after the previous general election, the seeds of the key political issues placed on the agenda were sown mostly during the Sato era. Witness the establishment of the peace constitution, which was repeatedly mentioned by Prime Minister Suzuki in the same words. Witness his statement that "no constitutional reform will be contemplated during my term of office"; the three antinuclear principles which were actually two antinuclear principles according to its rhetoric; the coldblooded abandonment, during party President Isozaki's era, of support for the National Railway's movement to increase productivity for fear of a strike, resulting in the National Railway's ruin and decline; and witness the foolish attempt to decrease the capability of the F-4 planes which were bought at high cost.

Of course, Prime Minister Sato did have a political goal to which he gave high priority--that is, the return of Okinawa. For its early return, regardless of the costs and apparently denying himself any thought of a wider range of choices and with surprising casualness, Prime Minister Sato ignored the importance of all other political issues. His merciless curt dismissal of all cabinet members who caused problems was described as "the cutting off of the lizard's tail." Probably in his view even a single mosquito which disturbed the issue of Okinawa's return was cause for anxiety and could not be spared.

Seeds Sown During Sato Era

At the time, I made an interpellation before the Budget Committee of the Upper House regarding Prime Minister Sato's attempt to establish the three antinuclear principles by accepting the broad interpretation of the opposition. I stated that the denial of port calls and passage through territorial waters and the renunciation of the "manufacture, possession and entry" of nuclear weapons was typical Japanese jibberish which ignored the strategic and tactical principles of self-defense; that it would result in a serious disaster under certain conditions in the future. I incurred the wrath of Prime

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

Minister Sato. As I recall, the prime minister said: "What do you mean by jibberish? If you don't like it, you can leave the party." As long as such an obstinate "conviction" on the part of the prime minister was based on his desire for the return of Okinawa, the party probably really had no alternative but to quietly follow suit. Nonetheless, the seeds of the three antinuclear principles, which have gained attention again recently, and the bombing equipment problem concerning the F-4, were indeed sown during this era.

It is unbelievable that even today, when the international situation surrounding Japan has changed drastically, the government's position on these issues remains unchanged. Regarding the port calls and passage of nuclear weapons-carrying warships, Prime Minister Suzuki replied at the outset as a matter of course: "We will deal with them on the basis of reality." It was probably an honest reply based on the fact that the political coefficients had changed since the Sato era, or it was the hackneyed phrase used by politicians who are not knowledgeable about the circumstances involved. Ironically, however, from the standpoint of those who were well-advised, it was a very appropriate statement.

However, extremely absurd views which were counter to the commonsense of Prime Minister Suzuki--a man of commonsense who was not an expert regarding such issues--had been pursued as policy throughout the years, beginning with the Sato era. The superficial newspapers pointed this out and the government hastily compelled the prime minister to retract his statement. If the prime minister's advisers had backed his very practical vow to "deal with the situation realistically," there might have been some debate, but it would have resulted in a return close to the direction of commonsense. However, politics emphasizing the supremacy of Diet policy forced a compromise for the sake of maintaining a pacified Diet policy.

Despite the U.S.-Japan security pact, there is no right on Japan's part to search U.S. ships entering Japanese ports, and if we consider the case of the Soviet nuclear submarine which had an accident in the vicinity of the Nansei Islands and pushed its way through our territorial waters despite warnings from the Japanese side, Japan does not have the power to check or prevent the passage of nuclear weapons. If that is so, the problem of port calls and free passage under the three antinuclear principles is actually a hollow issue. Also, while the United States and the Soviet Union are laughing behind our backs, the United States, an ally, carries on a dialog as to whether or not it will bring in nuclear weapons.

Therefore, the question is why such a hollow issue is so important. Such deception could greatly impede the proper awareness of the people who must support political choices when they count. Moreover, this could become a great strategic advantage to the Soviet Union, an adversary. In fact, the Kremlin immediately responded to an antinuclear manifesto issued by Japanese literary figures and called for strong support of the three antinuclear principles. A political principle which does not recognize port calls and free passage for the ships of the United States, an ally, would clearly be advantageous to the adversary from both the strategic and tactical

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

standpoints if it were to be actually enforced. Even though we are aware that it is a hollow issue, some people in Japan would use it as a pretext to accuse the government and the United States, which would become a minor but effective factor in bringing about political confusion. In any case, failure to deal with reality and continuing the lies and nonsense which originated more than a dozen years ago would only result in benefitting the adversary.

It is said that as long as it is within the time limit of its mandate to rule, the government could successfully deceive the people. There is arrogance on the part of the bureaucrats who say, "Let the people come to us," and presumptuousness in their view that there would be no time to argue the pros and cons of port calls and free passage in the case of a showdown. At the same time, they say there may be no chance of it coming to a showdown. As we wrote in this magazine the other day, it is a baseless optimism which in fact comes from a typically Japanese world outlook based on insular self-righteousness.

In fact, the chief cabinet secretary clearly stated that there is some perception gap between the United States and Japan concerning the Soviet Union. And at a public hearing in the U.S. Congress, former U.S. Ambassador to Japan Johnson referred to the statement and clearly testified that the ultimate cause of the crisis in U.S.-Japan relations lies in a perception gap between the two countries regarding the Soviet Union.

He was probably referring chiefly to awareness of the Soviet military threat, which constitutes the greatest factor in present international politics, including the defense problem. However, there has been no tangible explanation by the government concerning the difference in perception and, first of all, there is no reason to expect Japan to have its own information or analysis which would be the source of such a perception gap. From the standpoint of preserving U.S.-Japan relations amid the friction centering on several issues, if there is a perception gap between the U.S. and Japanese Governments concerning the grave question of a Soviet threat, then the Japanese side should present its views and propose a debate in order to overcome the gap. However, that does not seem possible. Typically vague Japanese statements are made for the sake of preserving U.S.-Japan relations, and still a perception gap is admitted to exist.

His dissatisfaction with the procedures aside, Prime Minister Suzuki personally signed the recent joint statement expressing satisfaction with the contents. Meanwhile, the cabinet spokesman admitted the existence of a perception gap between the two nations regarding the Soviet Union. Which is the government's true opinion? If the gap is not crucial to the government, it should, as the U.S. side has frequently pointed out and Japan has agreed, assume its "fair" share of the burden for its own security within the framework of retaliatory strategy by the free nations.

Before the percentage of the GNP as allocation for its defense budget or the number of new planes for purchase are to be discussed, a "fair" share of the burden can only be realized amid the present international tension, to which

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

the Soviet threat is a main contributing factor, by rejecting the habit of seeking help from others on defense--a habit which was understandable under past international conditions when Japan did not have its present world status--and by shedding the baseless optimism rooted in that habit. But first the deception which permitted the existence of those factors must be removed.

Incidentally, the government's words and actions concerning the modification of the F-4 fighter plane, which recently elicited a fierce debate in the Diet, merely added to the clearly erroneous government view when it became an issue during the Sato era, or rather to the unquestionable deception without any attempt to correct it. The F-4 issue is actually not limited to the strategic value of the fighter-bomber. The debate between the government and the opposition over the plane symbolizes the strange and dangerous idealism which has prevailed in postwar Japan and which is present in the "peace constitution." It also symbolizes the empty rhetoric based on unrealistic political rules which prevail only in Japanese politics and the detriment to the national interest which is fostered by such rhetoric. Otherwise, it was a great opportunity to stem the negative trend and to restore a sound policy.

Absurd F-4 Debate

The Defense Agency attempted to increase its defense capability as demanded and concurrently to cut its spending in various areas to conform with administrative reforms. By equipping the previous second-line F-4 fighter with modern electronic instruments and devices, it planned to increase its longevity as a self-defense weapon from the original 3,000 hours to 5,000 hours (about 10 years in real terms). By recycling obsolete equipment, as it were, it contemplated its inclusion in the defense power buildup plan. The F-4, costing 3.8 billion (yen) per plane at the contracting point in FY-77, was first manufactured at a cost of 1.33 billion (yen) in FY-81 and again at a cost of 8.496 billion (yen) in FY-82. After anticipated results are confirmed, it is planned to similarly modify the other F-4's in order to boost their capability and prolong their longevity. If the initial trial manufacture is successful, the cost of modifying the remaining F-4's beginning 3 years later with the second plane will cost no more than 1 billion (yen) per plane, and for certain types of combat it will have a capability equal to the F-15 fighter. Incidentally, the cost of the F-15 at its contracting point in FY-82 was as high as 11.2 billion (yen) per plane. Although perhaps not equal to the F-15, the 132 F-4's in Japanese possession could be seen as an investment with a very high rate of return. The modifications will involve changing the radar system to add the capability to attack a low target in a low-altitude approach, and adding a central computer similar to the one mounted on the F-15, thus increasing accuracy by replacing the simple, human-eye operated bombing system with a modern electronic device.

The Japan Socialist Party (JSP) raised opposition to the proposal and the Diet recessed amid turmoil. From the standpoint of the JSP, which emphasizes unarmed neutrality--i.e., against the use of a single rifle--the argument is that, for whatever reason, it is a breach of promise to suddenly reequip the F-4, whose electronic bombsight was removed because of a commitment made

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

during the Sato era, with the same device to improve its capability. The JSP considers it a deviation from the explanation made in the Diet.

From the standpoint of the Defense Agency, it wanted to ask why the JSP was acting at this stage like it was half asleep, but it refrained. Instead, the agency explained that, in view of the general improvement of a broad range of weapons, the restoration of an accurate bombing capability to the F-4 does not pose the relatively aggressive threat to an adversary that it did before. Moreover, the F-15, which is superior to the F-4, has subsequently been purchased and deployed, so the agency assumed it was understood that the basis for the F-4 threat had become relatively nonexistent with the change of times. In fact, the F-4 was not a threat during the Sato era.

Diet member Oide, who made the statement opposing the reequipment of the F-4, also demanded removal of the bombsight from the F-15 as an excessive threat. The issue was skirted at the time with the statement that a reply would be forthcoming after a technical study was made on the basis of an original production design. The JSP refused this time to be circumvented. However, was it necessary at this juncture for the government to reply to this kind of argument at the pace of the opposition? In doing so, hasn't the government tied its own hands, and isn't it bound to suffer a serious setback both tangibly and intangibly?

Truthfully, it is sophistry to argue in this age of rapid technological progress that the F-15, which appeared several years later than the F-4, is a purely interceptor type considered inferior to the F-4 in its bombing capability. It would have been better not to purchase such a type of new plane. It proves that the debate in the name of Diet deliberation, using arguments which no one really believes, is conducted only for the sake of a low-dimensional "Diet policy" whose results and arguments of pro and con deviate from the real substance.

Following Suit With the Fukuda Statement

Following the uproar, I read the government's view which was made public on 9 March, and was again disappointed. The gist of the government's explanation was that the spirit of the statement by former Defense Agency Director Masuda--i.e., the basic policy of not possessing equipment presenting an aggressive threat to other nations--would be upheld. It also stated that, since the F-4 bombing device is no longer a threat relative to the improvement of capabilities in other weapons, the government would proceed with its scheduled plans.

Since the deceptive statement which Director Masuda issued or was forced to issue during the Sato era has been upheld with another overlay of lies, the government has planted and left the seeds for similar unproductive debate to future generations.

What, then, are the lies and deception in the Masuda statement which the government has recently upheld? First of all, what did the JSP mean by "an aggressive threat to other nations?"

FOR OFFICIAL USE ONLY

By other nations, at the time it meant the Soviet Union, China and North Korea. Today, China would be excluded. By "threat" it meant that the principal cities of those nations would fall within the flight range of the F-4 or F-15.

However, aside from reconnaissance flights, any kind of plane would have to be equipped for combat in order to present a threat. The F-4 can ordinarily carry eight 500-pound bombs, but with such a load its flight range would be 250 nautical miles one way even in a beeline roundtrip flight. If so, it could not reach any of the cities in the aforementioned nations, even from domestic bases in Chitose, Misawa, Komatsu, Tsuiki, Nyutabaru and Naha. Therefore, the JSP attacked the Defense Agency on the basis of a hypothetically reduced load of four bombs in order to increase the flight range, and the government responded in accordance with that hypothesis.

Data is available on a map which was often displayed at the time. It is a linear map with a radius of 400 nautical miles one way for an F-4 carrying four bombs from principal bases in Japan. Actually, an accurate radius of 400 nautical miles would not encompass Shanghai, Pyongyang, Vladivostok or Khabarovsk.

Nonetheless, the Masuda statement implies that those cities would fall within the flight range of an F-4 carrying a half load of bombs.

The argument seems to be that even if the F-4 were to reach those cities, it would not be equipped with a central computer for pinpoint bombing. Therefore, it would not go on any raid which might prove useless, and if it were not equipped with the device it would not become a threat. Even a child would know, in this day and age, that a strategic or tactical threat is not such a simple matter.

Strictly speaking, a military threat is based not only on the quality, quantity and capability of military equipment, but foremost on the intent behind their use. Without quoting the example of constitutional constraint, it is clear that Japan has neither the intent nor necessity to invade and attack those nations.

As proof, one can look at the flight squadrons of Japan's Air Self Defense Force and see that there isn't a single attack squadron. They are all interceptor squadrons.

In contrast, the division-size troops deployed by the USSR in recent years on the four northern islands are excessively large to be justified as so-called "defense of the islands (Who on earth are they going to defend the islands against--the islands they seized from us?)." Also, qualitatively speaking, their landing hovercrafts are nothing but aggressive infiltration weapons suited to Japan's topography. On the basis of these facts, we cannot help deducing their intentions and as a result sense a strong threat from them.

Such appropriate debate on the essence of a threat was never brought to the fore by the government at the time. And even today, when the brazen

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

deployment of heavy fighting power under the Soviet world strategy has been confirmed on the four northern islands, why doesn't the government attempt to conduct a fundamental debate regarding such defense problems by centering on the F-4 issue?

Furthermore, what was meant by the threat of the F-4 at one point was none other than the F-4's bombing capability compared to other weapons. That is why the government recognized the F-4 as a plane with a more variable purpose than the F-15. Therefore, the nuclear bombing capability, which is the F-4's real threat, could be nullified merely by removing the nuclear control system, and the F-4 should not become an issue even though it may be equipped with a gauge for bombing purposes.

Nuclear Weapon No Rival of Tyranny

The greatest deception of the Masuda statement lies in the fact that while advocating pure self-defense and procuring equipment for that purpose under heavy cost, the government has fallen prey to loud and unwarranted criticism from the opposition and, without thinking of the various possibilities for Japan's self-defense in an emergency situation or without referring to it even if it did, it has only made compromises.

Of course, the Japanese islands are narrow in shape, but they are lengthy in distance. The distance from Wakkanai to the Yonagunijima Islands at the southernmost tip of Okinawa is 3,200 kilometers or about 1,800 nautical miles. If a large-scale invasion should be made directly against Japan, the islands could easily be split in two. If one were to hypothesize defense combat support under these circumstances, it would mean in extreme terms that the capital area (Tokyo) or even Hokkaido would have to be defended by air combat units stationed in Naha. Half of the entire length of the Japanese islands would be 900 nautical miles. None of the fighter planes or fighter bombers used by Japan as interceptors could amply cover this distance. If planes capable of protective sorties from Naha to Tokyo, and from Komatsu in the Hokuriku region of the Tohoku region and Hokkaido, were to be selected, the opposition would again undoubtedly draw radical lines with their compass and cry "aggression."

Considering only the F-4 or F-15, from a strictly tactical aspect of Japan's self-defense, studies should be made to extend the flight range of existing planes including the use of in-flight refueling systems.

As a result, even if the planes at hand should have the cruising capability to reach some foreign areas, they would not in the least constitute a threat by Japan, which could not possibly entertain such an intent. If foreign countries should be concerned about such a capability, it would not extend beyond a deterrent capability.

At one time in the secret chamber called the Diet--whether or not it was for the purpose of paving the way for the return of Okinawa--enormous national funds were invested to purchase fighter planes. Regarding those planes, argument for the sake of argument was used, calling them a threat to peace or to

FOR OFFICIAL USE ONLY

pure self-defense and using words for their own sake whose true meanings were incomprehensible. It resulted in a bizarre conclusion, and a quite common question was asked among the people who observed this from a distance: "How could our nation be protected with weapons which present no threat to any unknown nation?" From the standpoint of the perception of the masses, taking the trouble to dismantle a computer for accurate bombing from a fighter bomber purchased for defense purposes and depending solely on the pilot's intuition, which could prove to be unreliable, would be as frustrating as adjusting and lowering the speed of a newly purchased car to a level which meets standard regulations--although the present driving regulations do limit speed. One may argue that they are two different matters, but if the speed limit for cars is for personal protection, the high capability of weapons is also for personal protection.

Although it may sound like a play on words, if the capability is of the adversary's attention, it would serve as a deterrent as long as there is no intent of aggression on our part. It only becomes a threat when the intent is altered.

Many Japanese who have the bad habit of viewing things in a narrow sense, from only one aspect or with inflexibility, cannot comprehend the organic and complex functions of deterrent power. Often, when in possession of a certain amount of power, they could only visualize the military effect resulting from the actual use of that power. To be able only to think in terms of actually using deployed weapons is like being born to poverty, or it is sheer impetuosity. Half of the efforts, including the money spent, would then be in vain.

Not only in the area of military affairs involving the use of weapons but also in the area of foreign diplomacy through the use of language, and especially in the area of international political strategy involving the use of both, isn't it customary to use various tangible and intangible ruses, including bluffing, before the actual clash? Or to bargain and maneuver on the side, or to compete with each other?

For example, there is within the retaliatory political strategy evolved by the Reagan administration vis-a-vis the Soviet Union the view that a limited war is possible. The real purpose is not so much the meaning of the words per se, but the anticipated effect of the pronouncement of those words on the adversary. However, the Europeans whose theater is the target naturally feel anxious and protest. Fully expecting this, the European governments nevertheless support the U.S. strategy, which is an example of the intricacies of strategic maneuvering. The Japanese seem to forget that where there is tension, there is naturally an adversary.

Diverting somewhat from the main subject, the antinuclear campaign, which naturally arose in Europe, has spread to Japan. The Kremlin immediately responded to an antinuclear statement issued by a group of Japanese literary figures, sending a reply in the name of the secretary general of the Soviet Communist Party and calling for support of an unprecedented three antinuclear principles which exist in no other country. It promised (?) that to that extent

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

the Soviet Union would not attack Japan. Do those people who call for the support of the communique actually understand the intent of the Soviet Union, which is not involved in the three antinuclear principles? The 75 SS-20's, which are placed near Lake Baykal and pointed toward Japan and China, are equipped with megaton nuclear missiles which could destroy all of Japan. Those who cannot see them, or who close their eyes to what they don't know, surely cannot claim to have the power of calm persuasion.

The antinuclear campaign, which spread to Japan as I had feared, developed in the form of strict observance of the three antinuclear principles. It went further and developed into a call for opposition to the U.S.-Japan security pact. In anyone's mind, nuclear weapons are naturally fearsome and foolish. However, in order to prevent those politically immature leaders of the communist society from committing destruction and to bring them to the discussion table to point out their losses or gains, the only way after every effort has been exhausted is to use the warning effect of a possible limited war, and in the meantime to produce similar weapons in quantities equal to that of the adversary. In effect, the United States, which controls the world whether we like it or not and which decided to re-arm in order to prevent a holocaust, knows the dynamics of political strategy, being well aware of the huge and wasteful cost. We should also be aware of such dynamics in order to prevent destruction.

Both nuclear and conventional weapons kill great numbers of humans and have done so in the past. Today, people are trembling in fear of a crisis in which further large-scale massacres will be committed. We must not forget that, in the Soviet Union which has almost single-handedly brought about such a condition and is an immature society despite its enormous power, actually more people than nuclear weapons could kill are being buried alive under a warped and deeply deluded dictatorship. Awareness of such conditions depends on whether one considers a man's freedom more important, or the value of a man's life.

There is no free man who doesn't fear and hate nuclear arms. However, the evasion of nuclear weapons must not be linked to unchallenged permissiveness of murder in disguise through the deprivation of political freedom.

Philistine Politics Could Ruin a Nation

I am afraid that an idealistic and impulsive political movement is again about to occur in Japan which could strangle the freedom of the people. I believe the politicians themselves should realize that their form of politics in refusing to examine their own lies and deceptions concerning the F-4 or the three antinuclear principles, and their philistine concern regarding their self-preservation, are fostering such a danger.

Now that I am a politician, I feel able to understand better, but when I saw the demonstrations among young intellectuals in opposition to the unilateral passage of the 1960 U.S.-Japan security pact in the Diet develop in a short time into an antisecurity pact movement, a number of us who were sympathetically involved left the movement. Jun Eto recently wrote about his own similar experience.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

At the time, the chairman of the Japan Writers and Artists Society asked probably at the board meeting after the day's meeting had ended: "There is a strong movement in society opposing the security pact, so what do you think about us drafting an antipact resolution, too?" Whereupon the now deceased Shiro Ozaki and Fusao Hayashi both countered: "We are for it. But why are you fellows against the pact" We would like an explanation." The chairman could not reply. The meeting adjourned without any solution, and there was no further mention of the subject. It seems to me like an almost pathetically comic episode. Meanwhile, Prime Minister Kishi unilaterally pushed the pact through the Diet and provoked criticism even within the ruling party, but it eventually won support from the nation. At the time, I myself heard the chairmen of the ruling and opposition parties support the pact. It was the first time such an event had occurred in Japan. I recall being surprised that Prime Minister Kishi, whom I disliked for no other reason except that he was a former war criminal, showed excellent persuasion in his argument.

On the other hand, Kishi's brother, Prime Minister Sato, could be said to have conducted a form of politics during his rule which was in a sense the opposite of his brother's. It was after the return of Okinawa when the university disputes were at their peak. Prior to the opening of the Diet where great controversy over the university legislation and health insurance reforms was anticipated, Chief Cabinet Secretary Hori, in accordance with Prime Minister Sato's wish, invited several literary figures including myself, who was also a member of the Upper House, to ask our opinions. At the time, I recalled the impression I had received of Prime Minister Kishi on television during the 1960 security pact debate, and made a request regarding the prime minister's government policy speech. Mr Hori tentatively agreed: "That's a very good idea." However, he later retracted: "No, I don't think we should. If we do, I'm afraid the Diet debate will heat up." His words probably reflected his concern about the character and basic political posture of the prime minister whom he served. My rebuttal, that the people will not focus their attention on nor be enlightened by any debate which does not heat up, was in vain.

Because of the persistence during the Sato era regarding the return of Okinawa, the recurring Diet deliberation on the subject resulted in weeding out such disturbing practices as free-for-all fights, all-night debates and steamroller passage of resolutions in the Diet. However, amid the ostensible tranquility and quiet, there was no telling how many important political themes failed to receive proper debate and to be shielded from the people. As a result, the people were deprived unnecessarily in both a material and spiritual sense.

Amid great changes in the political coefficients concerning issues, it is a historical necessity to derive proper conclusions through appropriate deliberation and debate. To ignore this and to idly follow the political posture of the past is apt to result in a loss to the nation which is far greater than it was at the point in time in which the action took place.

The prime minister, above all, and all politicians should refresh their minds to the fact that, unless we once again review such outdated and distorted

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

issues as the three antinuclear principles and the F-4 problem, and unless we fall into proper step, not only the ruling party but the nation and the people will also come to ruin.

The politicians and the people who observe the political scene should heed the words of Chigaku Tanaka: "Stupidity without evil thoughts" can thoughtlessly invert the order of a political theme and its method, and result in destroying a nation. It only pursues self-preservation and indolence, and is fostered within a philistine brand of politics which is devoid of true courage.

COPYRIGHT: 1982 Bungei Shunju Ltd.

5884
CSO: 4105/88

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

SCIENCE AND TECHNOLOGY

GOVERNMENT, PRIVATE, ACADEMIC BIOTECHNOLOGY EFFORTS REPORTED

DNA Experiment Guideline

Tokyo NIHON KOGYO SHIMBUN in Japanese 10 Feb 82 p 4

[Interview with Professor H. Saito, Institute of Applied Microbiology, Tokyo University (Science and Technology Agency Expert Committee member) by T. Inemori, NIHON KOGYO SHIMBUN Osaka office)

[Text] Leading Technology Using Genetic Recombination, Cell Fusion--
Spurred by Relaxation of DNA Experimental Guidelines

Recently, biotechnology has been in the limelight. It spread mainly in the United States and Europe as a leading technology using genetic recombination and cell fusion. It involves a broad field, from pharmaceuticals and food, to chemicals and energy. In Japan, MITI incorporated it in the "Next Generation Basic Technology Development Project" which began in 1981; and in the private sector, the Federation of Economic Organizations established the "Life Science Committee," with the participation of many corporations, including the energy-related industry, and lively activity is in progress. In particular, the stringent Japanese recombinant DNA (deoxyribonucleic acid) experiment guidelines were drastically relaxed recently through revision by the Science Council of the Ministry of Education, which has spurred research and development. In addition, from the academic standpoint, the "International Symposium on Applied Microbial Genetics" will be held in June this year for the first time in Japan at the Kyoto International Hall. The symposium is being held on recombinant DNA techniques in broad fields ranging from amino acids to energy, and approximately 1,200 participants will gather from specialized fields in Japan and abroad. Therefore, we interviewed Professor H. Saito of the Institute of Applied Microbiology, Tokyo University (a member of the Science and Technology Agency Expert Committee) regarding problems in biotechnology involving government, the problems in biotechnology involving government, the private sector, and academic institutions.

FOR OFFICIAL USE ONLY

Ten Firms Leading in the Pharmaceutical Area

[Question] What headway, in particular, is being made in DNA (deoxyribonucleic acid) research, a technology to open the 21st century?

Saito: Interferon. Specifically, DNA synthesis is being carried out for hormones by Suntory with the guidance of Dr Nakanishi of Kyoto University. Managing director Noguchi and others are working with beta-lipotropin. Wakinaga is also working on it. Others involved include Toyo Rayon, Kyowa Hakko, Green Cross, Sumitomo Chemical, Kanegafuchi Chemical, etc--some 10 firms are in leading positions.

[Question] Including the late starters, more than 70 firms are working on it counting just the members of the Federation of Economic Organizations. What do you think about this situation?

Saito: They are engaged in textbook technical acquisition. For interferon, some of them recruited Itakura's students and are busy acquiring practical techniques. Even then, because of the narrow area, there is also the problem of too many corporate laboratories being involved. Setting the United States aside, there seems to be a critical attitude in Europe, especially in England and France. However, when I visited Europe last fall, some in England were very eager, and in France, the government is taking the lead in working on it.

[Question] The groundwork for research and development lies mainly with the pharmaceutical manufacturers, does it not?

Saito: That's because they are equipped with research structures that are not of a conventional pattern, but are compatible with advanced amino acid mass culture and the antibiotics era. They have been working by means of gene splicing or cell fusion to improve the ability of a type of fungus that resembles Actinomyces bacteria.

[Question] What about related areas?

Saito: In Belgium, a herbicide has been developed by genetic recombination of plants. This is not a conventional synthetic herbicide; it was made by removing a nontoxic gene. It is attracting attention as a partner in labor-saving agriculture and as having an antiseptic effect. In addition, alcohol synthesis based on the same principle is also being considered. This will, however, take 5 more years looking at the present state of technology. Also anticipated are petrochemical plants utilizing petroleum reactions at normal temperature and normal pressure as well as highly efficient refining in the mining industry.

Petroleum Development by Making Fatty Acids

[Question] Rather than processes, for example, is energy such as petroleum conceivable?

Saito: Petroleum is a reduced form of a substance that makes fatty acids. Therefore, theoretically it is fully feasible by making the fatty acids. Fatty acids can be made by extensive genetic recombination. It will require much more sophisticated biotechnological techniques. It will probably take 10 more years.

FOR OFFICIAL USE ONLY

[Question] What about petroleum cost by then?

Saito: Considerations are based on the premise that it will be three times the current price. Petroleum development will have the effect of reversing this cost. Cetus, backed by oil companies in the United States, obtained a patent for a process to manufacture ethylene, etc, by inducing enzyme reactions. Its cost accounting basis is set at 3 years hence with the premise that the price of oil will double by then. Speaking of oil prices, the United States suffered from a gasoline shortage in 1979, and cars lined up at gasoline stations on the West Coast. I was staying in the United States at the time and understood their feeling well. There, voices were asking for gasoline prices to be raised rather than having to line up, and the price of 70 cents jumped to \$1.40. It was a realistic solution and no complaint was heard. Thus, the increase for oil will probably occur at an unexpectedly fast pace. We should not fall behind overseas countries in petroleum development using gene splicing or cell fusion. If we do fall behind, it's important to catch up immediately.

Government Should Take the Initiative in Mass Development

[Question] I understand. But are Japanese corporations thinking that far ahead?

Saito: In their current condition, they haven't got extra force to spare. Following the past pattern, they will make a connection immediately with pharmaceuticals, choosing those that have high added values with small quantity. Cost accounting comes first, and this makes things difficult. Since this is directed toward large quantity rather than small quantity production, the government--for example, MITI or the Ministry of Agriculture, Forestry and Fishery--should take the initiative.

[Question] What about their administrative guidelines?

Saito: The authorities concerned are the following five ministries: the Science and Technology Agency, the Ministry of Education, MITI, the Ministry of Agriculture, Forestry and Fishery, and the Ministry of Health and Welfare. The first guidelines were announced in March 1979 by the Science Council of the Ministry of Education, followed by an announcement and notification by the Science and Technology Agency through the government's advisory organ, the Council for Science and Technology, in August of the same year. Aside from DNA experiments, MITI, for example, initiated a 10-year "Next Generation Basic Industrial Technology Research and Development Basic Program" and began development of recombination and application techniques in FY-81. Among the various agencies, there are aspects that differ from each other, and their coordination, which is now being handled by the Science and Technology Agency, is important.

[Question] Recently, the Science Council of the Ministry of Education took the initiative, in its interim report, to relax the recombinant DNA experiment guidelines, which are said to be the most stringent in the world, to the European-American level. Any opinion?

Saito: The "subcommittee" compiled the revision proposal and publicly announced it. The Council for Science and Technology, which stipulates the guidelines, will also study them and is likely to announce them in early FY-82.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

The donors may be handled at the P₁ level, and some that are associated with experimental facilities can be handled at the P₂ level; and two- to three-step relaxation (from P₃ and P₄) compared to the present guidelines will take place. However, on the other hand, new rules are included as to the handling of new microorganisms produced by recombination. In this respect, it may be said that the contents received full consideration. Now, the research structure of the concerted government and private efforts will be greatly accelerated.

[Question] In the private sector, President Suzuki of Mitsubishi Chemical is fervently carrying out the activities of the Federation of Economic Organizations; and collaborative artificial DNA development by the brewing and pharmaceutical industries is attracting attention. Any thoughts?

Saito: It is interesting that they have each gone beyond the other's framework. Especially, in the committee of the Federation of Economic Organizations, firms other than life science concerns are also included, which I think will help in formulating the technological groundwork. Regarding artificial DNA, a broad area from interferon, insulin, to amino acid trimmers has been targeted. I'm looking forward to their achievements.

Situation Very Similar to Penicillin Development

[Question] It is said that the biotechnology rush is very similar to the time of the penicillin development. Is it?

Saito: During the 1948-1949 penicillin boom after World War II, approximately 70 firms appeared. After a while, those which survived included only Takeda and three others which were in mass production at 10- and 20-tons, and the rest stayed at the test-tube facility stage producing 4 or 5 tons. Mass production from fungi entails restrictions as well, and they fell behind in technical and cost-accounting aspects. However, most of the 70 firms in this research development acquired the basic knowledge regarding the genetic movement and culture of microorganisms and tied it to the later mass production and distribution of amino acids and antibiotics. The penicillin preparation from fungi was not in vain by any means. The same can be said about biotechnology. The genetic technology that has been established by approximately 10 firms at present will spread to 20 or 30 firms. However, even if firms are weeded out later, there will be some technology where their DNA work will be useful. Even if they don't achieve an energy source such as petroleum, there are broad areas ranging from pharmaceuticals to food and petrochemicals.

[Question] What is the situation overseas, especially in the United States?

Saito: Among the numerous venture businesses, Genentech is well known. It has grown more than 10-fold, from a staff of 23, 4 years ago, to nearly 350. Cetus Corporation is also engaged in a broad area of research and development ranging from pharmaceuticals to chemical processes, food, and energy. In addition, Professor Kornberg (Stanford University), a Nobel laureate for genetic research, joined DNAX and ALZA as a research consultant and is engaged in the development of immune drugs. As is seen in these examples, they are ambitious and there is a several 10-fold difference in research funds and 100-fold in research staff. Basic biotechnology research has become a regular part of

FOR OFFICIAL USE ONLY

biology programs in U.S. universities, and numerous research institutes exist. In general, I believe that Japan is 3 or 4 years behind. In application, there are some that are more than competitive with a few products such as interferon, hormones, etc, but the difference is due partly to the delayed experimental guidelines, etc. However, when it comes to mass culture and market development, the Japanese senses are fully activated, and they are fast in reaching a reasonable level. Especially in private industries, I think their response is quick once they see the prospect for commercialization.

First Symposium in Japan To Be Held

[Question] Lastly, I would like to ask you about the "Fourth International Symposium on Applied Microbial Genetics" to be held in Japan for the first time.

Saito: That meeting will be held in Kyoto in June of this year, and Dr Y. Ikeda, professor emeritus of Tokyo University, is the chairman of the organizing committee. Symposia have been held twice in Europe, once in the United States, and this is the first time in Asia. I am in charge of program formulation (chairman). We are incorporating subjects such as amino acids antibiotics production, yeast breeding, genetics of food and energy production, recombinant DNA modification, etc. As of now, we are expecting participation by 37 countries attended by approximately 1,200 experts from both at home and abroad.

With the relaxation of guidelines, the environment is ripe in Japan, and I hope many will participate in the symposium.

COPYRIGHT: Nihon Kogyo Shimbunsha Tokyo Honsha 1982

Four Applications of Biotechnology

Tokyo NIHON KOGYO SHIMBUN in Japanese 10 Feb 82 p 4

[Text] Recently, in industrial circles, interest in the life science has rapidly increased. Originally, life science was a comprehensive science in which the mysteries of life were sought, and it included academic fields such as biology, physiology, biochemistry, medicine, pharmacology, ecology, psychology, etc. However, as a result of progress made in molecular biology in which the phenomena of living organisms are studied at the molecular level, biological functions have been elucidated, which has opened the way for application in industrial and technological aspects. That applied technology is "biotechnology." Research and development in this aspect began following the elucidation of the molecular structure of DNA (deoxyribonucleic acid) in 1953 by Watson and Crick, barely 30 years ago. Subsequently, in 1973, genetic recombination (recombinant DNA) experiments were conducted for the first time in the world by Cohen (Professor at Stanford University, U.S.A.), Boyer (Professor at University of California, U.S.A.), and others, resulting in a rapid development. Basic and applied research are being advanced mainly in the United States.

Biotechnology is generally defined as "the technology in which the life phenomena operational in living organisms are elucidated to be utilized in

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

solving various problems related to human life or in producing useful substances"--in short "the applied technology of biological functions." In other words, it may be referred to as the technology that incorporates the principles of life phenomena inherent in all living organisms on earth such as metabolism, immunity, proliferation, movement, etc., into the category of applied "engineering." Specifically, it can be roughly divided into the following four techniques.

(Recombinant DNA Technique)

The technique, literally, involves the recombination of DNA which carries biological genetic information by using enzymes, etc., and growing the living cells into which genes of different kinds of organisms are freely inserted. It is playing the leading role in biotechnology. The culture cells (host cells) used include yeast and *Bacillus subtilis* in addition to *Escherichia coli*, which has a high growth rate. This method enables the mass production of useful substances which was not previously possible due to restrictions such as material, etc. Research in the pharmaceutical area is in the forefront; techniques to manufacture insulin, interferon (IFN), growth hormone, vaccines, vitamins, amino acids, etc., were developed, and they are now in trial stages for practical application. Not only pharmaceuticals, but heat-stable enzymes with the prospect of wide application in areas such as industrial processes and food technology can also be produced by this technique. Its importance is immense since it becomes related to technical development in various areas of biotechnology.

(Mass Cell Culture Technique)

A technique to obtain useful substances efficiently and in large quantities by mass-culturing animal or plant cells in large quantities that produce useful substances including various kinds of enzymes, physiologically active substances, etc. This technology is indispensable in propagating microorganisms obtained by gene splicing or new cells created by cell fusion.

This technique is being tested for the cultivation of IFN, urokinase (thrombolytic agent), etc. However, a difficulty in commercialization exists in the fact that fetal calf serum, which is expensive and difficult to handle, is being used in the cultivation medium. In order to effect efficient cultivation, other artificial media or serum-free cultivation is necessary, and the task is to develop them.

(Cell Fusion Technique)

A technique to fuse cells having different advantages to create new cell types (hybridoma) having the advantages of both cells. As opposed to genetic recombination using lower living organisms such as microorganisms as subjects, this technique attempts to recombine entire rather than partial genetic information by adhering cells of higher living organisms. It is highly practical in plant and animal breeding.

It is a well-known fact that the Max Planck Institute in West Germany used this technique to create the "pomato," a mixture of tomato and potato. In

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

Japan, the Gifu Prefectural Agricultural Experimental Station succeeded in producing "Hakuran," a "mixed breed" between cabbage and celery lettuce; and the Japan Monopoly Corporation succeeded in producing interspecies hybrids between its cultivated species of leaf-tobacco "tabacum" species, and tobacco-mosaic resistant "rustica" and "repanda" species. The merit is in the shortened time required to create a new breed of agricultural crops that took 6-7 years previously by alternation of generations, etc.

On the other hand, in the medical field, transformed lymphocytes and lymphocytes with antibody production ability can be fused to create antibody-producing cells with proliferation ability, which can be cultured to make an antibody with high precision (monoclonal antibody). The monoclonal antibodies currently being used as diagnostic agents are being isolated from animal blood, and being restricted quantitatively, this technique will open the way for mass production. It will not remain as an immunodiagnostic, but there is a strong possibility that it will lead to immune therapy in such areas as cancer, allergy, etc.

(Bioreactor)

It is a technique of industrial application in vitro of chemical reactions and substance metabolism being carried out in a living body using enzymes as catalysts. It is also called a "microbial application reactor" or a "bio-chemical reactor." The chemical industry heretofore generally used metal catalysts under high temperature and high pressure for chemical reactions to produce the target substances. As opposed to this, a bioreactor is a system to manufacture useful substances under normal temperature and normal pressure by using useful microorganisms and enzymes rather than metal catalysts. It is an energy-saving, resource-conserving, and nonpolluting process. When this is realized, huge plants, etc., will become "white elephants." Thus, the interests of various chemical companies are strong. Both domestic and foreign corporations are positively advancing the research. Cetus in the United States developed a manufacturing process for ethylene oxide and propylene oxide using a fermentation method and is testing for practical application in a pilot plant.

The problem is that the enzymes are very unstable, and while they demonstrate high activity in living cells, they totally lose activity outside. Thus, the task is to immobilize enzymes in a form that maintains its activity, is insoluble in water, and is readily usable in industry. Immobilized enzymes are the target; and when this technique is established, it will probably revolutionize the chemical processes such as continuous production. In addition to the immobilization of enzymes, important points are finding and modifying enzyme sources in microorganisms and the development of thermophilic microorganisms that do not lose activity at high temperature.

Ranging From Pharmaceuticals/Food to Chemicals/Energy

--Enthusiastic Pharmaceuticals Industry With a "Dream" Anticancer Drug

As explained above, biotechnology is applicable in many areas such as pharmaceuticals, food products, chemical industry, energy, etc., and it also has depth.

FOR OFFICIAL USE ONLY

In the pharmaceuticals area, it is no longer a dream to develop a genetic recombination technique for Actinomycetes that produce antibiotics and the development of antibiotics that distinguish normal cells and bacteria and kill only bacteria. Prospects in the agricultural field are the development of crops that do not require fertilizers by directly splicing into the crop plants the genes of atmospheric nitrogen-fixing bacteria (Rhizobium); and in the energy area, plant breeding for biomass applications and the modification of microorganisms for alcohol production, etc; leading corporations of the world are in furious competition.

With European-American firms taking the lead, centered in the United States, Japan fell far behind. However, the Japanese firms are now spurring their research and development and are catching up. Biotechnology-related venture businesses were established in England and France by government and private joint effort. On the other hand, the Japanese Government, which fell behind in getting started in the aspect of forming a national support structure, has embarked on building a foundation for research and development and is demonstrating ambitious movement by forming government and private collaborative projects with the motto "catch up, get ahead."

First, in the pharmaceutical area, most of the leading drug manufacturers such as Takeda Chemical, Green Cross, Shionogi & Co, Fujisawa Pharmaceutical, Daiichi Seiyaku, Sankyo, Chugai Pharmaceutical, etc, have begun research. In particular, Takeda Chemical, Green Cross, and Shionogi & Co are very active.

However, research in biotechnology is not limited to major manufacturers. A pharmaceutical manufacturer of medium standing, Wakinaga Yakuhin, succeeded, for the first time in the world, in the synthesis of "secretin," a gastrointestinal hormone that inhibits secretion of gastric juice by a gene splicing technique using E. coli. Ringen Biochemical Research Laboratory, which established a unique technique of producing IFN (alpha type) using hamsters, is in the process of developing a carcinoma breaking factor (CBF) with a new physiologic activity in a joint study with Mochida Seiyaku. It is a type of lymphokine which is produced along with interferon from human lymphoblasts obtained by mass culture (Ringen hamster technique). In animal experiments, data indicates that it directly kills cancerous cells while having virtually no effect on normal cells. Further studies may still be necessary regarding the mechanism of the action, but it has a high potential as a prospective anticancer drug. In addition, it is said that the serum substitution factor "CMA-1" which was extracted from cholera, a unicellular green alga, and developed by Kurorera Kogyo, can replace 90 percent of the fetal calf serum used for media, and it is noteworthy as a substance useful in mass culture of IFN, insulin, etc.

General chemicals firms and petrochemical firms are also leaning strongly to biotechnology. In the process of transformation of corporate makeup from general-purpose chemical products and basic chemical products to fine and specialty chemicals, they are advancing research and development by making biotechnology the nucleus technology for the next generation; and they are busy consolidating the structure. Mitsubishi Chemical developed restriction enzymes that play an important role in genetic recombination. It also discovered extrachromosomal genes, plasmids, of E. coli and yeast, and applied

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

for several patents on the preparation processes. While forming a consistent joint research structure with its affiliated company, Mitsubishi Chemical Life Science Research Institute, it is also involved in monoclonal antibody work with an American venture business, Hybritech Corporation, and plans to supply diagnostic drugs. Thus, it is developing research in a wide range from genetic engineering, cell fusion, to bioreactors. In particular, it contemplates placing emphasis on the development of resource-conserving, energy-saving chemical processes. On the other hand, Sumitomo Chemical has newly established a biotechnology research team to strengthen the research organization, and at the same time, a P₃ level experimental facility will be completed soon to build up the structure at the Life Science Research Laboratory. In addition, a purification plant for IFN-alpha will be completed this summer with technical importation from the Wellcome Corporation in England, and will start toward practical application.

In addition, Mitsui Toatsu Chemicals made a technical agreement with Genex for manufacturing urokinase by genetic manipulation, and is planning to venture into the pharmaceuticals area. Mitsubishi Petrochemical, Shoa Denko, Daicel Chemical, Asahi Chemical, Toyobo, etc, are also engaged in biotechnology with a forward posture.

The food industry, having traditional strength in the use of microorganisms, is not merely standing by helplessly, either. Along with Ajinomoto, which has succeeded in the mass production of an amino acid, threonine, by breeding in E. coli, competing firms are Meiji Seika which is aiming at antibiotic production from enzyme research to seed bacteria business, and Suntory, the Yakuruto head office, Nisshin Flour Milling Co, and Sanraku Ocean which are contemplating joining in pharmaceuticals, among others.

Nisshin Flour Milling Co, along with Green Cross, Earth Seiyaku and Chugai Pharmaceutical, had their staff attend the Genex seminars on genetic recombination techniques which started on the 7th, and began to mobilize for technical acquisition. Kao Soap, Nippon Oils and Fats, and Miyoshi Oil and Fat are all conducting research geared to biomass. In the area of genetic engineering alone, in excess of 100 firms have made themselves heard. With leading trading firms making a move for technological intermediary, the industry is in a feverish state indeed.

However, even the so-called "modern-day magic" biotechnology cannot be developed by a fluke. It takes a long time to develop into merchandise, and the risk entailed is also great. Investment in basic research is also limited in private enterprises. Needless to say, it should be undertaken as a national project with a concerted national effort.

Serious Growth Effort Also by the Government

Based on these viewpoints, the government is also responding to the international technological competition era, and has ranked biotechnology as a leading technology for the new generation along with ceramics and new functional polymers, and has begun working for its growth by investment earmarked in the national budget. This is the "Next Generation Basic Technology Development System" started by the Industrial Science and Technology Agency of MITI in FY-81; the development will be promoted by investing a total of 104 billion

FOR OFFICIAL USE ONLY

yen in the 10-year plan. Out of this, 31 billion yen is estimated to go into biotechnology. Already secured are 670 million yen for FY-81 and 1.04 billion yen for FY-82. The "Biotechnology Development Technical Research Association" (director: E. Suzuki, president of Mitsubishi Chemical), which will become the nucleus for technical development, has also been inaugurated; it includes 14 firms and has begun research activities in the respective subject areas. Gene splicing technique was assigned to Sumitomo Chemical, Mitsui Toatsu Chemicals, and the Mitsubishi Chemical Life Science Research Institute; mass cell culture technique, to Asahi Chemical, Ajinomoto, Kyowa Hakko, Takeda Chemical, and Toyo Jozo; and bioreactors, to Mitsubishi Chemical, Kao Soap, Daicel Chemical, the Electro Chemical, Mitsui Petrochemical, and Mitsubishi Gas Chemical. They are to proceed with research and development by choosing projects with high innovative characteristics. As if to respond to this move, starting in FY-83 the Agency of Science and Technology also plans to incorporate "Biological Information" among the targets under the title of "Creative Science and Technology Promotion System" in order to advance life science research forcefully. In addition, 3-year research is being conducted starting in FY-81 on influenza vaccine and hepatitis B vaccine using genetic engineering techniques, and preparation is underway to construct a research facility for gene splicing at the Tsukuba Science City. The Ministry of Education and the Ministry of Agriculture, Forestry and Fishery are also promoting research based primarily on their respective standpoints. With the practical application of pharmaceuticals produced by biotechnology near at hand, the Ministry of Health and Welfare plans to evaluate not only the clinical trial of IFN, but also the method of clinical trials, the evaluation process, etc., and formulate a standard for approval of new drugs with a 3-year plan. Although their research directions differ slightly according to the various ministries, their objectives are the same in that they promote biotechnological research and aim for practical application at the earliest time.

The Standard Research Laboratory in the United States cited biotechnology and electronics as the biggest growth areas in the 1980's. According to the prediction of an American survey firm, Sheets, Inc. [phonetic], the market scale for products by biotechnology in 1988-1990 [as printed] is estimated to be \$27.1 billion (approximately 6 trillion yen) annually. In the survey of Mitsui information development, the market scale in the year 2000 is estimated at 4.2 billion to 6.8 billion yen, and a market scale of at least 3 billion yen is considered a certainty. The impact on industrial circles is indeed great.

However, there are also problems because of the magnitude. In the rush for development, the possibility of sloppy management cannot be denied. The problem of bioethics has already been pointed out. The need for proper regulations are obvious. However, too strict rules can hamper research progress. In Japan, guidelines called "Recombinant DNA Experiment Guidelines" were established in 1970. However, due to the trend in the United States to relax regulations, strong voices have also been heard in Japan urging relaxation along the same lines. These recently resulted in the interim report of the Science Council of Japan of the Ministry of Education which proposed a drastic relaxation, and it is expected to be announced by early FY-82. The reason is that in the United States, genetic recombination can be conducted in an

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

ordinary experimental laboratory (P₁ level) when E. coli is used, while the Japanese regulations are the most stringent in the world today. Among the researchers worldwide, the majority hold the scientific opinion that safety is not a problem regarding the experiments in genetic manipulation themselves if a proper sequence is used, and this point should be taken into consideration. However, on the other side, it is important to establish a researchers code of ethics, and a balanced operation will no doubt bring about the proper growth of biotechnology.

COPYRIGHT: Nihon Kogyo Shimbunsha Tokyo Honsha 1982

Active Enterprises in Western Japan

Tokyo NIHON KOGYO SHIMBUN in Japanese 10 Feb 82 p 5

[Text] Business undertakings in biotechnology are more active among enterprises in western Japan than in the eastern part. Full-scale clinical trials for pharmaceuticals manufactured by gene splicing will begin in Japan this year, and most of the drugs were manufactured by western enterprises. At the end of this month, Shionogi & Co will begin clinical trials on human insulin produced by gene splicing in E. coli supplied by Eli Lilly of the United States. In addition, Sumitomo Chemical will also start clinical trials for a growth hormone produced by gene splicing in E. coli supplied by a Swedish firm, Kabi AB. Thereafter, clinical trials for Takeda Chemical's interferon (IFN) is expected in the spring, followed by those for Green Cross's hepatitis B vaccine. The western firms are currently one step ahead.

In particular, the major drug manufacturers are enthusiastic about biotechnology work. First, the two firms, Takeda Chemical and Green Cross are typical. Takeda Chemical is reportedly one of the early starters in biotechnology in Japan, including gene splicing, along with Mitsubishi Chemical and others. It has a large-scale P₃ level facility at the Central Research Laboratory in Yodogawa-ku, Osaka, and is making steady progress in research. Regarding IFN, in particular, a prospective carcinostatic agent, it has a technical agreement with Nippon Roche, a Japanese subsidiary of Roche, which acquired the technique from the genetic engineering specialist Genentech in the United States, and it is hurrying with IFN-alpha development by gene splicing of E. coli. High purity IFN-alpha has already been produced, and it expects to go into clinical trials this spring. In addition to new drug developments using gene splicing technique such as IFN-beta, hepatitis B. vaccine, etc, it has apparently undertaken biotechnology of cell culture, cell fusion, etc.

On the other hand, Green Cross is making a contrasting move. It has not been long since it began genetic recombination research, but it has actively made technical agreements with overseas manufacturers and has risen to the top of the Japanese biotechnology firms.

Beginning with the importation in February of a technique for IFN-gamma using yeast from Collaborative Research Incorporated (CRI) of the United States and a technique to produce albumin using E. coli from Genentech of the United States, it subsequently imported bacteria for producing IFN-alpha and -beta using E. coli from Bristol-Myers Co of the United States. In addition, in

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

September it imported a manufacturing technique for hepatitis B vaccine using gene splicing from Biogen in Switzerland, while receiving the basic patent for genetic recombination held by Stanford University in the United States, for the first time in the world. In the meantime, a move was made for capital investment in CRI in the United States; its active technical agreements being made with overseas firms are attracting attention.

Moreover, it recently began independent research in genetic recombination and is developing IFN-alpha and a thrombolytic, urokinase, by gene splicing using E. coli, where it apparently has seen a prospect. In addition, it is advancing research in biotechnology to collect tetanus immune globulin by cell fusion and has already completed production of hybrid cells, hybridoma. After establishing production techniques, it plans to begin clinical trials in 2-3 years.

Shionogi & Co is now moving rapidly with genetic recombination work. It will import and market in Japan human insulin produced by gene splicing by the U.S. Lilly Company through technical agreement with Genentech. In addition, in January of this year, it reached agreement with Biogen of Switzerland to commercialize human serum albumin by gene splicing. In the plan, albumin produced by Biogen will be commercialized as early as in the latter half of the 1980's.

Although it has not been announced, Fujisawa Pharmaceutical has already established a research facility of about P₃ level, and is apparently conducting basic research, also. It commented: "we cannot say what we will manufacture" (President T. Fujisawa), but its interest seems to be as strong as that of Takeda Chemical or Shionogi & Co.

In addition, Tanabe Seiyaku is apparently studying the biotechnological area using the technique of immobilized microorganisms, which has already been put into practical application, rather than genetic recombination. Yoshitomi Pharmaceutical is also making efforts to develop new drugs since it established the autonomous marketing system. As a part of this effort, it is directing its attention to biotechnology such as gene splicing and cell fusion and is sending staff members to research organizations. Ono Pharmaceutical is also showing basic interest.

DNA Synthesizer--Prospect for New Market

--Mass Production Plant Is Also Being Studied

Not only in the pharmaceuticals industry, but many chemical companies are venturing into the biotechnology area. Sumitomo Chemical, which has a pharmaceuticals business as well, is emphasizing life science since it began collaborating with Wellcome of England and has embarked on the commercialization of interferon. Following the completion of a P₃ facility in its Osaka plant, it also built a P₃ facility at the biochemical research laboratory (Takarazuka city, Hyogo Prefecture). At this laboratory it organized a biotechnology team consisting of some 30 staff members. For the time being, they will center their work on techniques which have already been in practical application, such as growth hormone, insulin, etc, and are planning subsequently to venture into development of monoclonal antibodies by cell fusion.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

Kanegafuchi Chemical Industry completed a P₃ level facility last year at its Takasago plant (Hyogo Prefecture) in an attempt to expand the pharmaceutical business with new techniques. Since the firm proudly possesses the world's leading techniques in fermentation and synthesis, it began to put serious efforts into gene splicing using its achievements as the basis. Although it has not disclosed what its targets are, it apparently plans to develop unique products besides interferon by using biotechnology.

A top firm in the paint industry, Kansai Paint, is also showing its ambition in biotechnology by advancing the development of chemical products using the technique of immobilized enzymes. Daicel Chemical is also reportedly advancing research with emphasis on bioreactors using the fermentation technique at its central research laboratory in Himeji city. Toyo Rubber Industry has apparently embarked on biotechnology research, a first in the rubber tire industry, using the technique of immobilized enzymes in which enzymes are sealed into polyurethane resins which the firm successfully developed.

Besides the pharmaceuticals and chemical industries, the textile industry, mainly synthetic fiber manufacturers, are also eyeing the growth in biotechnology and are showing a strong interest in it. Toray began conducting interferon research early on along with Green Cross. In October last year, it, along with Daiichi Seiyaku, imported the technique for interferon-gamma which uses gene splicing, and has ventured into the area of genetic recombination in earnest. Asahi Chemical Industry also completed a P₃ facility last year, and started research on various new substances including interferon using gene splicing. Meanwhile, it has sent researchers to the United States and is aiming for commercialization.

In addition, Teijin is also directing its attention to gene splicing as part of its pharmaceuticals business. Kuraray is also studying the use of gene splicing in pharmaceuticals and chemicals. At Unitica, research on an ATP (adenosine triphosphate) reproduction reactor is being advanced, and using it as a lever, it plans to embark on bioreactor development, an area of biotechnology. Through such research, it recently began marketing enzymes and plans to develop biotechnology-related products as a line for a nontextile business in the near future.

Among firms in the spinning industry, Toyobo and Kanebo are active. Using the enzyme technique, which has been commercialized in part, Toyobo wishes to begin gene splicing research, also; last year, even Stanford University came to offer its gene splicing patent. It has apparently found a prospect in developing several kinds of restriction enzymes for cutting the DNA chains needed for gene splicing. Kanebo, noted for development in large-scale new drugs, does not show too much interest in the gene splicing technique. However, it has begun cell fusion research, and future achievement is anticipated.

In addition, among the various industrial categories, Suntory, Takara Shuzo, Sun Star, etc, are outstanding. In particular, Suntory, led by managing director T. Noguchi, is demonstrating active movement. Using a rich research staff as a weapon, gene splicing research is in progress at a rapid pace. Last year, it succeeded in the artificial creation of alpha-neoendorphin, a physiologically active substance having analgesic action similar to morphine.

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

It has also succeeded in developing a carcinostatic substance by cell fusion technique and is also among the top group in interferon research and development.

As a unique firm, Takara Shuzo may be cited. The firm is a leader in the production of sweet sake and shochu [distilled sweet potato wine], but it has domestically produced for the first time restriction enzymes which are essential for gene splicing, and it has commercialized approximately 20 restriction enzymes. From the dentifrice industry, Sun Star has started biotechnology research such as cell culture and cell fusion and is aiming for development of interferon and new substances.

An insecticide manufacturer, Earth Seiyaku (head office in Sakagoshi, Akao city) is also showing great interest in gene splicing. In January this year, it sent development staff members to the gene splicing technique training course sponsored by the U.S. genetic engineering specialist, Genentech. Since insecticides use organic compounds as raw materials, mass production by gene splicing is theoretically feasible as long as the molecular structure is known, and their future growth in research is regarded as hopeful.

Trading firms are also deeply interested in biotechnology. Following Mitsui & Co and Nissho-Iwai, Sumitomo Shoji recently ventured into biotechnology. It has a basic agreement to collaborate with Celltech, a semigovernment, semi-private venture business in biotechnology in England. It plans to sell Celltech's cell fusion and gene splicing techniques to various firms in the future.

In addition, Matsushita Electric Industry also discovered a new strain of oxygen-resistant methane-producing bacteria, and it is aiming to develop and apply it in a methane-production system and to develop a biosensor using the immobilized enzyme technique.

Cellular Engineering Center Announces Its Concept--Osaka University

Now, undertakings in biotechnology are not limited to major corporations, but activity is also found among medium-level firms. A typical example is Wakunaga Yakuhin (head office in Osaka). In June last year, news that it succeeded in producing a gastrointestinal hormone, secretin, by gene splicing for the first time in Japan, created a sensation. Using the nutrient tonic Kyoleopin as the main ingredient, it directed its attention to gene splicing early and achieved the development under the direction of chief researcher M. Suzuki. Currently, besides hastening with the final work for the commercialization of secretin, it is aiming to develop various new substances such as interferon, and it is actually competing with the top class firms in Japanese biotechnology research, leaving many major firms behind.

Like Wakunaga Yakuhin, Ringen Biochemical Research Laboratory (Okayama city) is also attracting attention suddenly as a biotechnology venture business. Using a unique method for mass production of interferon using hamsters, it is currently conducting safety tests using animals in collaboration with Otsuka Seiyaku and Mochida Seiyaku and will soon start clinical trials. An additional mass production plant for interferon is under construction, with a completion target for the end of the year. When completed, the current annual production

FOR OFFICIAL USE ONLY

of 300 billion units will be increased to 600 billion units/year. In addition, as a result of the increased facility, it is expected to establish a mass production system for CBF (carcinoma breaking factor) which was successfully isolated in collaboration with Mochida Seiyaku, as a product of interferon. Furthermore, it concluded a deal to carry out collaborative research with Messerschmitt, a spacecraft manufacturer in West Germany, on research into various physiologically active substances in space. Thus, it continues to carry out unique activities in the field of bioscience.

In addition, in the area of biotechnology hardware, a noteworthy firm is M-S Kiki (head office in Osaka city), which is undertaking the development of a leading apparatus for synthesizing DNA, which is the core of the genes. As the gene splicing research of various firms will increasingly become active, the demand for a DNA synthesizer is expected to expand in the future, and it is likely to become a prospective new market.

As stated, many western Japanese firms are actively engaged in biotechnology. Meanwhile, Osaka University announced the concept for a "cellular engineering center" last year in an attempt to create a center for life science using the leading technologies such as gene splicing. At this center, it plans to consolidate the foundation for molecular biology such as genetic recombination where broad application is expected, cell fusion in which immune antibody-forming cells are fused with proliferative cells for conducting immunological studies such as allergy, and selective insertion of chemical compounds or drugs into cancer cells to treat intractable diseases or cancer. It plans to construct the center with a total area of 4,300 square meters at the Suita campus after FY-83.

As a result of such a positive undertaking through the concerted effort of both government and private sectors in western Japan, we are likely to stand shoulder to shoulder in the not too distant future with the European and American firms which are now one step ahead.

COPYRIGHT: Nihon Kogyo Shimbunsha Tokyo Honsha 1982

Mounting Interests, Expectations

Tokyo NIHON KOGYO SHIMBUN in Japanese 10 Feb 82 p 5

[Statement by E. Suzuki, president, Mitsubishi Chemical Industries, Ltd]

[Text] Last year, an undertaking in the life sciences began with set goals in government, academic and private sectors respectively. It was a year that may be called the beginning of the life science years in Japan.

In industrial circles, we have a deep sense of responsibility to relate the life sciences to the progress and growth of the society by responding to these issues with a firm posture in order for them to blossom as the basic material to support the next generation.

There are several factors in the background of the life sciences in which great expectations repose today. In brief, however, it is due to the fact that the

FOR OFFICIAL USE ONLY

material basis of life has been elucidated by rapid progress in molecular biology, and based on that knowledge, recombinant DNA, cell fusion, etc, have been developed as technologies, and possibilities have opened for their broad applications in industrial and medical aspects. On the other hand, as a result of the enormous consumption of resources and the appearance of environmental problems caused by rapid economic growth, the building of a new technological system is eagerly awaited by society.

Along with contributions to medicine and biology as the basic science, the aspect of industrial technology (biotechnology) is attracting the most attention in life science. At the same time, it involves various problems of human society as well as problems of welfare and a value system. Consequently, it is desirable that life science be promoted widely based on the understanding and cooperation of the government, academic circles, and the general public. In industrial circles, also, it is necessary to respond to and have a promotional system not only in a specific industry but with a widely concerted effort of the overall industry. Fortunately, as we look at the member firms of the Life Science Committee of the Federation of Economic Organizations, the constituent firms belong to diversified industries such as food, chemicals, pharmaceuticals, petroleum, textiles, ceramics, machinery, electronics, information, electric power, trading firms, financial firms, etc, demonstrating the extensive interest and expectations of industrial circles regarding this field.

In the past, the Japanese research and development structure in this field was not always sufficient compared to that of the Western countries. However, in the last year or so, the response of industrial circles has become particularly positive, and the building of developmental systems based on the private sector has been promoted positively, including the establishment of a biotechnology symposium by five chemical firms. The government is also taking various measures to fully utilize such vitality of industrial circles.

First, the Agency of Industrial Science and Technology of MITI took up biotechnology in the Next Generation Basic Industrial Technology Development System with a budget plan of 31 billion yen for 10 years and started a research structure with the cooperation of industrial, government, and private sectors targeted at three subjects: genetic recombination application techniques, bioreactors, and mass cell culture media materials. In response, 14 firms in the private sector such as chemical firms joined to establish a Biotechnology Development Technical Research Association. At the Science and Technology Agency, also, life science research was included in the Creative Science and Technology Research System, and efforts are being made to promote the research. The fact that these new measures have been initiated while financial recovery is in progress is a welcome event from the standpoint of industrial circles as an expression of the governmental policy emphases of Japan, which is destined to be a technological country.

Thus, the developmental structure of the industrial, government, and academic sectors toward life science has been rapidly consolidated. However, in industrial circles, it is necessary for us to play the role of grasping the state of advancement in life science both at home and abroad, and at the same time,

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

undertaking projects such as proper formulation of guidelines for technical development and industrialization directed toward the healthy growth of this field as well as promoting correct understanding for the broad society in general, and furthermore, based on these, at promoting specific policies desirable for the country.

Life science is indeed a technology directed to the 21st century. However, we must realize that it is no longer a dream or fantasy, but has arrived at the stage of practical application, and make efforts for forward-looking activities with a realistic attitude.

COPYRIGHT: Nihon Kogyo Shimbunsha Tokyo Honsha 1982

7722

CSO: 4106/86

END

FOR OFFICIAL USE ONLY